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The Historic, Economic, and Social Aspects of the Laundry Industry in America

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Index

Boards of Health
Department of Labor
Department of Commerce
Federal Extension Service

E. Present Industrial Consciousness and Status page 132

Laundryowners National Association

Part I

Historic Summary

Introduction

Laundering is at once one of the oldest arts and one of the newest professions. A history of laundering and an account of the development of processes is indicative of the progress of civilization and the development of social, economic, as well as mechanical factors in the group life of man.

Of the beginnings of man s civilization, which culminated in the achievements of the Bronze age, we know very little. How he first found that flax could be woven into cloth, or discovered the way to make the tools for fashioning his clothing is lost in antiquity, for early man lived and died, leaving no trace of his existence, except his own skull and bones. It is evident that changing climatic conditions later forced him to clothe himself, because in the year 1854, the water-level of a Swiss lake became very low, revealing the pile dwellings of the peoples of the Bronze age.

This leads us to believe that as far back as the Paleolithic era man had begun to fashion the clothing he found necessary to his existence, for as early as the Solutrean period a bone needle, with an eye, was in use.

The laundry problem began at the same time that the textile and clothing problem developed. Probably the early savage was content to bury his dirt with paint, and to wear his clothes, if he lived in

a climate that required clothes, until they fell apart.

Egyptian

The Egyptians are the first historic group of whom we have any record, who practiced the art of cleanliness. To them cleanliness was a virtue, and the workman whose work was to wash clothes played an important part in the life of the community.

"In Egypt wide robes with many folds of white transparent linen were worn, without any adornment, the merit of this clothing consisting in the absolute purity and the finest texture. .....

This proscription of color was doubtless due to the desire for more absolute cleanliness of body; the same wish which led the Egyptians to shave both hair and beard. It was natural that with such ideas those workmen whose duties were to wash the clothes, played a special part, and

'The washer, he who washes on the dyke,
Neighbour to the crocodile as he swims up stream,'

is a favorite figure in poetry. ..... In the domestic life of private houses the great washing day was an important enough to be introduced into the series of pictures in the tombs. The pictures of the time of the Middle Empire represent workmen watched by the chief washer busy at small tanks with the washing and wringing.

We see them beating the wet clothes with wooden staves; they sprinkle them holding their arms up high; they hang one end of the folded piece of linen over a post, put a stick through the other end, and wring it with a good deal of force. Then they stretch and fold up the linen, and finally the chief washer packs it up in a great bundle. Washing and bleaching however were not considered all that was necessary for good laundry work; ingenious methods were also devised to mark the folds required by fashion, and which the fine linen would scarcely assume by itself. By what means exactly the Egyptians contrived to do this we can scarcely decide, though it is an interesting conjecture of Wilkinson's that these regular folds in the dresses were pressed in by means of a board such as is shown in the accompanying illustration."*

Cleanliness was a luxury at this period, and only the possession of slave labor made it possible.

The use of soap, or Javelle water was unknown. Clay and alkalis were the chief detergents used, and several mines were exploited to produce a variety of clay used in the cloth industry to fill and to clean woolen fabrics. This clay was also used for sizing.

The cloth maker and the launderer were apparently the same group. In tomb painting like the one at Beni Hasan it is not yet universally agreed upon by archaeologists whether new material is being fulled or old cloth re-

*Life in Ancient Egypt, Adolf Erman, page 217

conditioned.

Greek

The next historic group were the Greeks. In the Odysssey, Homer's tale of Nausicaa is one of the most beautiful in all literature. "Thus long-tried royal Odysseus slumbered here, heavy with sleep and toil; but Athene went to the land and town of Phaeacians. This people once in ancient times lived in the open highlands, near that rude folk the Cyclops, who often plundered them, being in strength more powerful than they. Moving from thence, godlike Nausithous, their leader, established them at Scheria, far from toiling men. He ran a wall around the town, built houses there, made temples for the Gods, and laid out farms; but Nausithous had met his doom and gone to the house of Hades, and Alcinous now was reigning, trained in wisdom by the Gods. To this man's dwelling came the goddess, clear-eyed Athene, planning a safe return for the brave Odysseus. She hastened to a chamber, richly wrought, in which a maid was sleeping, of form and beauty like the immortals, Nausicaa, daughter of generous Alcinous. Near by, two damsels, dowered with beauty by the Graces, slept by the threshold, one on either hand. The shining doors were shut; but Athene, like a breath of air, moved to the maid's couch, stood by her head, and thus addressed her, -- taking the likeness of the daughter of Dymas, the famous seaman, a maiden just Nuasicaa's age dear to her heart. Taking her guise, thus spoke clear-

eyed Athene:--

'Nausicaa how did your mother bear a child so heedless? Your gay clothes lie uncared for, though the wedding-time is near, when you must wear fine clothes yourself and furnish them to those that may attend you. From things like these a good repute arises, and father and honored mother are made glad. Then let us go a-washing at the dawn of day, and I will go to help, that you may soon be ready; for really not much longer will you be a maid. Already you have suitors the chief ones of the land throughout Phaeacia, where you were born. Come, then, beg your good father early in the morning to harness the mules and cart, so as to carry the men's clothes, gowns, and bright-hued rugs. Yes, and for you yourself it is more decent so then setting forth on foot, the pools are far from the town.'

Saying this, clear-eyed Athene passed away, off to Olympus, where they say the dwelling of the gods stands fast forever. Never with winds is it distrubed, nor by the rain made wet, nor does the snow come near; but everywhere the upper air spreads cloudless, and a bright radiance plays over all: and there the blessed gods are happy all their days. Thither now came the clear-eyed one, when she had spoken with the maid.

Soon bright-throned morning came, and waked fair-robbed Nausicaa. She marveled at the dream, and hastened

through the house to tell it to her parents, her dear father and her mother. She found them still indoors; her mother sat by the hearth, her father stood at the door just going forth to join the famous princes at the council, to which the high Phaeacians summoned him. St, standing close beside him, she said to her dear father:--

'Papa dear, could you not have the wagon harnessed for me;--the high one, with good wheels,--to take my nice clothes to the river to be washed, which now are lying dirty? Surely for you yourself it is but proper, when you are with the first men holding councils, that you should wear clean clothing. Five good sons too are here at home,--two married, and three merry young men still,--and they are always wanting to go to the dance wearing fresh clothes. And this is all a trouble on my mind.'

Such were her words, for she was shy of naming the glad marriage to her father; but he understood it all, and answered thus:--

'I do not grudge the mules my child, nor anything beside. Go! Quickly shall the servants harness the wagon for you,--the high one, with good wheels, fitted with rack above!

Saying this he called to the servants, who gave heed. Out in the court they made the easy mule cart ready; they brought the mules, and yoked them to the wagon. The maid took from her chamber her pretty clothing, and stowed it

in the polished wagon; her mother put in a chest, food the maid liked, of every kind, put dainties in, and poured some wine into a goatskin bottle,--the maid, meanwhile, had got into the wagon,--and gave her in a golden flask some liquid oil, that she might bathe and anoint herself, she and the waiting women. Nausicaa took the whip and the bright reins, and cracked the whip to start. There was a clatter of the mules, and steadily they pulled, drawing the clothing and the maid,--yet not alone; beside her went the waiting women too."*

"Now when they were come to the beautiful stream of the river, where truly were the unfailing cisterns, and bright water welled up free from beneath, and flowed past, enough to wash the foulest garments clean, there the girls unharnessed the mules from under the chariot, and turning them loose they drove them along the banks of the eddying river to graze on the sweet clover. Then they took the garments from the wain in their hands, and bore them to the black water and briskly trod them down in the trenches in busy rivalry. Now when they had washed and cleansed all the stains, they spread all out in order along the shore of the deep, even where the sea, in beating on the coast, washed the pebbles clean. Then having bathed and annointed them well with olive oil, they took their midday meal on the river's banks, waiting till the clothes

From the Odyssey I, Book VI Translation by Geo. H. Palmer

should dry in the brightness of sun. Anon, when they were with the food, the maidens and the princess, they fell to playing at ball, casting away their tires, and among them Nausicaa of the white arms began the song. And even as Artemis the archer moveth down the mountain, either along the ridges of lofty Taygetus or Erymanthus, taking her pastime in the chase of boars and swift deer, and with her the wild wood-nymphs disport them, the daughters of Zeus, lord of the Algis and Leto is glad at heart, while high over all she rears her head and brows, and easily may she be known,--but all are fair; even so the girl unwed outshone her maiden company:

But when now she was about going homewards, after yoking the mules and folding up the goodly raiment, then gray-eyed Athene turned to other thoughts, that so Odysseus might awake, and see the lovely maiden who should be his guide to the city of the Phaeacian men. So then the princess threw the ball at one of her company, she missed the girl, and cast the ball into the deep eddying current, whereat they all raised a piercing cry. Then the goodly Ulysseus awoke and sat up, pondering in his heart and spirit.

. . . . . .

She spake: they heard and cheerfully obeyed.
And set before Ulysses food and wine.

The patient chief Ulysses ate and drank
Full eagerly for he had fasted long.
    White-armed Nausicaa then had other cares
She placed the smoothly folded robes within
The sumptuous chariot, yoked the firm-hoofed mules
And mounted to her place, and from the seat
Spake kindly, counseling Ulysseus thus:--

. . . . . .

    She onward passed to the Phaeacian town,
Drawn by the mules. But when the royal maid
    Came to her father's halls of high renown,
    She by the porch drew rein. Thither came down
Her brothers, circling her, a lucid ring;
    They of Phaecian youth the flower and crown,
Like gods to look at. Soon unharnessing
    The mules, into the house the raiment clean they bring.*

Roman

In the later historical period we find the Roman citizen proud of his garments which he wore draped in graceful folds about him as he walked among his peers in the Forum. The toga designated his social station in life, and consequently received careful attention. It was usually sent to the fullers to be laundered. The Roman fuller put the garments in vats,

*Translation of Butcher and Lang, pages 85-197 in Book VI.

stamped on them to loosen the dirt, and then hung them up to dry in the street in front of his house. It was his work to make the cloth on the looms, as well as to wash the garments.

The Roman process of fulling as described in A Treatise on the Arts, Manufactures, Manners and Institutions of the Greeks and Romans, (Landan 1833) was as follows:

"To cleanse it from the natural grease they first boiled it in pure water and afterwards in wood ashes and ammonia, then rinsed it in a large pool of water. The finishing process was to immerse it in a bath, containing a decoction of the herbs struthium, a plant which had the property of bleaching, and presumed to be the borith of the prophets Jeremiah and Malachi. Soap, which was at first only a pomation for the hair, invented by the Gauls, was unknown in those periods, although as a German article the use of it applied to the persons and cloth, is clearly described by a writer of the third century. To the lixiviates, before mentioned, the fuller added, for further bleaching, the bolar earths of which the chief was the cymolian (fullers earth) from the isle of Cymolis, now called Argentiere. This was mixed with the cloth which they then fulled, that is, trod, or rather jumped upon, with their feet and worked with

their feet and worked with their hands. They also used rollers to press and beat the stuffs.

To complete the whiteness necessary, the cloth was fumigated by sulphur. To confer lustre, the cloth was pressed by a machine presumed to consist of two planks, between which the cloth was placed and pressed down by weights or a vice. ..... The trade of a fuller is one of most ancient date, and because it required a great supply of water their workshops were generally placed upon the banks of rivers or near springs. They did not work for the dyers alone, but scoured and whitened cloths and lines for personal and domestic use. They had also the art called interpolatio, of raising a nap upon old cloth, by a sort of carding instrument. They united the trade of scourers, because the customs of dining in a reclining position, and pouring perfumed oils upon the head often occasioned large stains of grease, et cetera. They had, likewise, the practice of letting out clothes for hire, and are charged with having so used those of their customers, even with having worn them themselves. So keen were the ancients for gossiping, that the fulleries were, like the barber shops, places of rendezvous even for philosophers and grammarians."

Within recent years fulleries have been unearthed in Pompeii, but archaeologists have not yet decided

whether the process portrayed is a reconditioning of old fabrics or preparation of new ones. This uncertainty is also a handicap in accurately reading Egyptian records of cloth making and laundering processes.

Mediaeval Era

The fulling process as described in the Encyclopaedia Britanica, sixth edition, and apparently in use in England in the thirteenth century make it quite evident that the fulling or washing processes used in the classical era were still in use up through the mediaeval era. As the economic life of the family was practically unchanged, this is not surprising.

Just as the landed estate in Greece, and the familia of the Roman citizen were self-sufficient units, producing their own food and clothing, and providing their own shelter, so the manor of mediaeval Europe was a self-sufficient unit. In England, for instance, the fuller existed in the group as a specialized worker and was patronized by the Lord of the Manor, and the nobles, but the serfs who made up the bulk of the population did their own work.

In the transition between the classical era and the full swing of mediaeval eccleciastic regulation of life, we find a brief interval of strong ascetic influence. The early Christians thought the luxury of clean clothes and clean bodies was a sign of spiritual decay, and frowned cleanliness out of favor. St. Jerome said that if one was washed in Christ that was sufficent.

But the attitude of the church in the later middle ages swung back to cleanliness and sponsored the order of knighthood, using each part of the knighting ceremony as a symbol of spiritual values. The candidate, for example, was bathed and dressed in spotless raiment as a symbol of his inner purification.

The furnishings in the homes of the nobles and upper classes included clothing made of fine linen and silk, which was washed fairly often. Many servants made the luxury of cleanliness a possibility for them. The peasant, on the other hand, seldom had time to provide more than one set of woolen clothes, and he had to wear these until they wore out,--usually without washing them once. It is not surprising that skin diseases and leprosy were common, nor is it surprising that the villages and towns could be smelled for quite a distance.

Renaissance

At the close of the Mediaeval period a virulent pestilence, called Black Death, swept the world. It reached England in 1348. The filthy and undrained streets in the towns and cities aided the destruction of the people and they died by the thousands all over Europe.

Labor conditions were in an upheaval. Laborers were scarce, and it was difficult for the villeins to

perform the services due for their lands. The landowners were forced to a temporary reduction of half their rent in order to prevent the villeins abandoning the farms. The shortage of labor meant a great shortage of goods. The landowner became panic stricken at the rapid deterioration of his property and exerted pressure on the serfs to compel them to work under the old terms, which resulted in rebellion.

In England the rebellion collapsed, in France the peasants devasted the countryside, and in Germany a century later the same rebellious spirit resulted in a series of peasant wars.

More and more of the people left the country to settle in the villages and towns. The village workmen began to form an independent class, and to depend on other groups for part of their necessities. Workmen in the Middle ages had banded themselves together to protect their craft, but during the Renaissance, the craft regulations became more stringent. All these social and political changes were reflected in sumptuary problems. Both the manufacture and reconditioning of cloth were influenced.

A Guild of Fullers was organized at Lincoln on the "Sunday before the feast of the Apostles Philip and James, A. D. 1297, by all the brethern and sistern of the fullers in Lincoln." This was probably organized to establish labor rules and to organize the fullers for social and benevolent

purposes. A rule was passed by the Guild that "none of the craft shall work in a trough," and that in case of total disability an insurance premium of three shillings a year should be paid for three years to the person disabled, or in case of his death allowed for mass and other mutual benefits.

These regulations and the causes for their inception were typical of those made by hundreds of Cloth Guilds which sprung up in various European countries. The industry became, through operation of its Guilds, one of the most influential, not only in financial and social activities but in politics also.

Guilds like many other wholesome changes "began with all the good there was in them." During the renaissance they grew more exclusive and grasping. At Bristol on February 14, 1406, a guild petitioned the Mayor and Common Council to enforce the ordinances passed previously and to pass other ordinances which would create "a 'better business bureau' to enforce good work and penalize bad in order to save the good name of the town and craft." This is a precedent which might well be heeded today by the managers of some of our own large textile plants.

This same guild also asked for an ordinance providing that any work done by a fuller outside the town which was not up to standard should not be handled by a fuller inside the town, under penalty of severe fine. They further petitioned for a ruling that the workers should not receive less nor accept more than fourpence a day and added "if the men are rebels or contrarious, and will not work, then the four masters shall take them before the Mayor and the Court of Gihald of Bristol to be there dealt

with according to law and reason."* -- (*Enc. Britanica, 6th edition)

These recommendations were approved by the Mayor and Common Council of Bristol.

The fulling processes at this date, as described in the Encyclopaedia Britanica, sixth edition, were apparently very similar to those used in Greece and Rome.

Emphasis is laid on these fulling processes because they are the models upon which all reconditioning processes have been built up.

As the Renaissance period advanced the economic life of the people changed from the guild or handicraft system to the domestic system. The workman worked in his own home, and used his own tools, but he no longer provided the raw material for his work, nor disposed of the finished product. Capitalists financed the work, and these capitalists were eager to economize in production and to avail themselves of the labor-saving devices which were invented in the eighteenth century. Kay's flying shuttle, 1738; Hargreave's spinning jenny, 1764; Arkwright's spinning frame, 1768; Crompton's mule, 1779; Cartwright's power loom, 1785; and Watt's steam engine, 1769; made it possible by 1835 for thirty-five persons to perform as much work as sixteen hundred thirty-four persons could do before these inventions. The increasing supply of family linens meant greater washings, and so led to the invention of laundry machinery.

On March 29, 1774, the first patent (No. 1064) was issued on a Mangle by the British Patent Office. The device was invented by "Hugh Oxenham, Carpenter and Mangle. Maker of Carnabey Market, St. Jame's" and gave him exclusive right to "lawfully make, use, exercise, and vend in that part of Great Britain called England, the Dominion of Wales, and the Town of Berwick upon Tweed."

"A Mangle of an entirely new construction, made with sliding rollers, cogged with iron or pinning wheels to answer all the purposes of Mangles without the incumberance of weight and will stand in a third part of the room for common Mangles."

This mangle was invented for finishing of new fabrics but was a forerunner of the mangle later used in reconditioning old fabrics.

Another old type of machine, described in the Cyclopaedia of arts and Sciences, London, 1819 is as follows:

"Calender, a machine used in the manufacturies, for pressing certain stuffs, silks, callicoes, and even linens; to make them smooth, even, and glossy. It is also used for watering, or giving waves to tabbies and mohairs.

The calender consists of two large wooden rollers around which the pieces of stuff are wound. These are put between two large, polished planks of wood or plates of iron, the lower serving as a fixed base, and the upper movable by means of a wheel like that of a crane; this upper part is of prodigious weight, sometimes twenty or thirty thousand pounds. It is the weight of this part, together with its alternate motion that gives the polish and makes the waves on the stuff by causing the cylinders on which they are put to

roll with great force over the lowest board."

The words mangle and calender were apparently used interchangeably. Mangle probably came from the Dutch word mangelen, meaning "to roll with a rolling pin" and calender from the Latin word cylindrus referring to the cylinders of the machine. Today neither of these terms are used. The machine is called by the modern laundry-owners "flat-work ironer."

A patent on a washing machine antedated that of the mangle by several years, though the mangle was probably used sometime before the washing machine was used.

Patent No. 271, issued August 27, 1691 to John Tizack, reads:

"William and Mary by the grace of God, &c. To all to whom these presents come, greeting:

Whereas, John Tizack of Wapping in our County of Middlesex, Glassmaker, hath by his humble petition represented unto us that haveing long had experience in the oyling and dressing of leather, fulling of cloath, and such things, he had by his care and industry found out 'A way by an engine to be worked by one or more men for the well and more easy oyling and dressing of leather and cloath,' which may be also applicable to the raiseing of water, washing of cloaths, milling

of sugar canes, pounding of minerals, and pounding and bruising of all sorts of seeds, pounding of charcoale to make powder of, and pounding and making raggs fitt to make paper, and the like, which said engine was never used in England before. And the said John Tizack hath prayed us to grant him our Letters Patents for the sole use thereof."

There was no drawing of this machine filed and no further description of the invention, so the machine is lost to posterity.

Eighty-nine years later Roger Rogerson was granted a patent (No. 1269) on December 5, 1780.

"An entire new machine called a laundry, for the purpose of washing and pressing of all sorts of household linen, wearing apparel, and other things.

This machine "has a frame of wood or metal, in which is a trough or cistern composed of straight or inclined sides, and curved ends, with two or more levers or futts hanging on centers or axes. When the machine is putt in motion, the bottom part of the levers or futts move in a curved direction in one curved part of the trough or cistern, pressing alternately the linen or other things in washing against the curved part of the trough or cistern. The levers are put in motion by moving a winch wheel or lever by the hand or any other power. In the machine over the trough or cistern is fixed two hooks, over

the trough or cistern is fixed two hooks, over which, wet linen and other things is hung, and by giving a circular motion to one of the hooks, presses the water out of the linen and other things in a more compleat manner than when wrung by hand."

The rest of the invention refers to machines for "pleeting" or folding in pleats and pressing. This latter pressing apparatus does not come within the scope of the present work, although consisting of a pair of rollers."*

A great many other patents for "washing all kinds of wearing apparel, lace, linen, and every other thing which requires washing (Patent No. 1331)* follow in quick succession.

Inventions followed in Germany, in France, in Canada, and the United States for both washing and ironing machines, but the washing methods of the individual home manager did not change noticeably until the beginning of the twentieth century. The close of the nineteenth century found a few steam laundries in Europe and America, and great improvements in the personal habits of the nations. The home manager had learned to buy her cloth and not to weave it, but she was still doing her own washing and ironing.

Modern Europe

The home manager in modern Europe does not handle

*Patents for Inventions. Abridgments or Specifications relating to Washing and Wringing Machines

her washing and ironing very differently today from the mediaeval procedures. It is still quite common in the country to find peasants doing their family washing at a stream or river bank, and splashing about in the water as they work, although in the cities the laundry is handled in the kitchen, a room set apart for washing, or a central washing plant where the women hire "tub" space.

In Italy washing day "is the great event of the fortnight, when our servants deem themselves of immense importance and pay little heed to us. Certainly il Bucato is an impressive ceremony. When the linen has been well soaped on a marble slab, it is pressed into an immense earthen jar called a conca, such as are used for lemon trees in a Tuscan garden. This stands by the hooded fireplace of the ironing room; a rough cloth is spread over the linen, and wood ashes are strewn thickly on top. Every time that the cauldron of water, hung by a chain over the fire, boils, it is poured over the clothes and, percolating through, runs out through a hole at the bottom of the conca. After about five hours the water runs out very hot, the sign that the Bucato is done. Lye mixed with the boiling water together with the wood ashes, takes out all stains. In this way

one escapes the boiling of linen, which is so ruinous, but of course it is a much lengthier process than our own. The linen is next carried in baskets to the river, where it is rinsed, and on sunny days, dried, stretched and folded on the shingle. There are always merry groups of women down by the river, even on a Sunday. They roll their skirt up round their hips, showing only a white petticoat, and stand in the water swinging the clothes to and fro as they chat and sing and laugh."*

In Spain the modern house is "built round a patio or central courtyard which is generally square but sometimes oblong in shape. ..... In the north it is little better than a dingy courtyard. The broad flags that pave it are often seen to have suffered displacement from the strong weeds and grasses that have sprung up between them. The family washing hangs on lines drawn across the patio, and if the house should be let off in floors, each floor will parade its washing on the same day. As a rule, each tenant occupies one side of the square, and it is by friendly arrangement with an opposite neighbor that the washing lines which are fastened on pulleys, have running rights to that neighbor's boundary."**

*Home Life In Italy--Letters from the Apennines by Lina Duff Gordon (Mrs. Aubrey Waterfield) Macmillan, 1908, p. 47 ff

**Home Life In Spain by S. L. Bensusan, Methuen and Company, London, 1910, page 6

The women in Holland, Russia, Norway, Southern England, and Wales generally use the kitchen as the wash-room, while in Austria there is no kitchen proper, and the work is done in the living-room.

In Holland and Finland, the family washing is usually done by regular servants assisted by the housewife. In Finland, in the city apartment, a central laundry which is used by the housewife or the laundress is quite common. In Sweden, the central plant is used in the city, but in the country a separate room is set aside for washing. In rural France, and the provincial towns, the peasants wash either in the streams or in public wash places, such as the old town moats, provided by the town. In Holland and Belgium the washing is rarely done out of doors, and in England and Scotland this custom is practically non-existent.

In Finland a woman will take her clothes down to a lake, heat a pail of water over a fire, wash her clothes, and then rinse them in the lake, while in the Alpine villages in Switzerland, the women use hollowed tree trunks as wash tubs or trough, scrubbing their clothes in these troughs which are supplied with water by the mountain streams which flow through them.

The equipment in most of the common wash-houses is usually very meager. Sometimes there is a pipe to carry the soiled water off, and sometimes it has to be bailed

out by hand. In most countires, there is a copper for boiling the clothes, usually heated by fire, though sometimes heated by gas, as well as one or two tubs for washing and rinsing the clothes.

Sweden and Finland have laws which forbid the women to wash clothes in the kitchen.

Household labor is cheap in most of these countries, and the workers prefer to do the work under handicaps, rather than use labor-saving devices as they fear these devices which do their work easier and quicker will in time supplant them, and leave them without an income.

The work is not only harder because of the antiquated tools, but because of the meager supply of water. In the country districts the housewife or laundress has to depend on the well, the pump, or rain water collected from the roof for her water supply. It is too often that the clean water has to be carried to the wash-place in pails and later the dirty water carried away again. Then the housewife has the choice of having the water heated on a stove, or using cold water in her wash.

The frequency of wash-day differs in different countries. In Finland, for example, the work is done every fourth or sixth week according to the size of the family; in Sweden it is done either once a month, once every second month, or once a quarter, depending

upon the amount of linen the family owns; and in Belgium it is done anywhere from once a week to once a month. In England, Scotland, Finland, Russia, and Holland the washing is usually done once a week, and in a few homes, once every other week.

Very often the clothes are dried in the kitchen, living-room or the bed-room, for few houses have an attic or a garden. The washing is only dried in the house, however, when the weather does not permit it to be dried out of doors. The beneficial effect of the sun on the clothing seems to be universally known, and everywhere on sunny washdays clothes can be seen drying in the sun. Where there are bushes and grasses, the linen is spread out to dry on them. In Italy, the clothes are hung on lines stretched from house to house across the city streets. There is very little smoke to soil the clothes in sunny Italy, but in industrial towns or cold and uncertain climates, drying clothes out-of-doors is a difficult problem. This explains why, in so many of the European countries, indoor drying rooms are provided.

Bleaching powders and soap are used for whitening clothes, in addition to exposure to the sun for bleaching purposes in practically all of these countries.

Just as labor-saving devices for washing clothes are scarce, and too expensive for the great majority of

the people, the laboring class, so the labor-saving devices for ironing clothes are scarce. The old-fashioned sad iron is still too common, and after a back-breaking day over the wash tub the women have to spend another day over a hot ironing board. In most countries, electric appliances are not owned by the laboring classes. However in Stockholm, Sweeden, many of the modern houses, are being equipped with electric machines for washing, drying, and ironing, while in Vienna, most of the new tenements are being provided with electrically equipped wash-kitchens and drying rooms.

In order to use these wash-rooms the women of Vienna had to pay a small sum towards the wages of the man in charge of the machines and towards the electric current. At first either the women did not want to use the appliances because of the expense or in some cases the husbands did not want to pay for work, done by machinery, that they felt their wives were quite capable of doing by hand. Gradually this feeling is being overcome.

Public wash-houses are provided in Great Britain by the municipality, in France they are provided in the garden cities by the Paris Housing Committee, in Belgium and Finland by private enterprise, and in Russia many of the factories have public wash-houses attached to them, supplied with constant hot and cold water, as well as the necessary washing and ironing equipment, which are used

by the factory workers. A few of the Swedish factories have laundries attached to the factory, for the use of their employees. However, the laundries, or wash-houses provided by the British municipalities are more numerous and less expensive than those supplied by other agencies.

The type of equipment in use varies in the different wash-houses. In some there is modern electrical equipment, consisting of washing machines, hydros (for squeezing the water out of the clothes after washing,) drying cupboards, and drying horses, mangles, and irons. In others both electrical and hand equipment is found, and in others there is no electrical equipment.

In general the women are charged more for the use of electrical equipment, but as five times as much work can be done by machine, the cost is really less. In England and Scotland the charge is twopence to threepence an hour, often less for the first hour and more for the succeeding hours. Part of the soap is provided in the costs.

The wash-houses are open for twelve hours each day, and usually are busy all day long. The women make appointments for space. Only domestic washing is permitted, generally, and a time limit is usually set.

The co-operative laundries have been developed to a greater extent in England and Scotland than in any of the other countries. There are co-operative laundries

in Germany, at the Hague and Deventer in Holland, Czecho-Slovakia has one at Prague, and Russia has many washing associations where the work is done collectively.

In England and Scotland most of the work done by co-operative laundries is the finished service, but semi-finished service is also done by some of the co-operative plants. In Holland a finished service is rare, and most of the work is only rough dried.

Co-operative laundries charge for their work by the piece, the pound, or the bag, according to the type of service purchased. When the work is charged for by the bag, the customer has the privilege of putting in as much as the bag will hold.

Co-operative laundries do a thriving business in England and Scotland. They collect and deliver the clothes. The work is done on a cash basis, and at the end of the half year, the societies distribute dividends to their members.

(Oriental section, page 45 should be inserted here.)

America

The problem of the family washing followed the Pilgrims to America, and was one of the first tasks the women had to undertake. Roland G. Usher in his book "The Pilgrims' and Their History" writes on page 86:

"Meanwhile--indeed ever since the landing at Provincetown--a considerable number had been ill, and by

February what Bradford calls the "general sickness" had stricken practically all the members. As their surprisingly good health on the voyage had been the result of the extremely careful arrangements, so now the cause of the "general sickness" seems to have been careless exposure. Though not to the severity of New England weather, for the winter of 1620-1621 and the two succeeding winters were singularly open and mild. Both Provincetown and Plymouth harbours were so shallow that the Mayflower was anchored a long distance from shore, and a considerable number of Pilgrims waded back and forth, to the small boats every day, became thoroughly wet in the process, and had no satisfactory method of drying their clothes. The women again misled by the mild weather, washed clothes several days in the ponds at Provincetown and caught severe colds. -- The result seems to have been tuberculosis* of a surprisingly contagious and rapid type, called sometimes galloping consumption. No more than six or seven were well at a time."

William Elliot Griffis in "The Pilgrims in Their Three Homes" wrote:

"After the Sabbath of November 23, practical life in the New World began on Monday, the 24th of November,

*Since this has been written leading men in the medical field have decided that it was influenza and not tuberculosis which attacked the Pilgrims.

by the women going ashore to wash clothes, which it had not been possible to do on board the ship, where all the fresh water in store was precious. We may imagine that the women had plenty to do, when they thus began the great American institution of "Wash-day Monday." They had been one hundred and thirty-three days on board ship since they left Delfshaven.

The juniper, or red cedar, which made the aromatic fire under the wash kettles has long since disappeared before the axe. The pool of fresh water so useful for their laundry, is now submerged in Provincetown Harbor.

Thus began, also, in the cold, raw air, the colds and coughs which put so many of them into their graves within a few weeks. One of the most pathetic facts about the first winter in their third home is the almost entire destruction of the wives of the Pilgrims, fourteen out of eighteen dying off, while four of the twenty-four households were entirely obliterated."

The methods of handling the laundry in the New World differed widely owing to the heterogeneous population.

In Amsterdam, or New York "The custom of quarterly clothes-washings had been brought from Holland and was long continued here among the Dutch settlers, notwithstanding that our summer heats, and the immense quantities

of clothes necessary to maintain the state of cleanliness required by Dutch instincts and traditions, must have rendered it exceedingly inconvenient. As lately as 1760, we find in an old letter that "Grandmother Blum is so deep in her Quarterly wash this Weeke that she has no time only to send her love." The writer of the letter was a New Englander married to a citizen of New York City, and the custom undoubtedly was strange to her. The washing was usually done in an outhouse called a bleeckeryen where the water was heated over the fire in immense kettles, and all the other processes of laundry work, conducted by the most laborious methods, were carried on there. This work usually required not less than a week, and quite frequently two weeks. During the three months intervening between these periods of cruelly hard labor, the soiled clothes had been accummulating from day to day in very large hampers of open basketwork, and stored in the bleeckeryen. It was this system of quarterly washings that rendered--and in parts of Holland and of Germany still renders--necessary the great stores of household and personal linens which are supposed to be brought to her new home by every bride, and for which the mothers begin to prepare almost from the birth of the first daughter. This preparation continued in the new land long after the custom of quarterly washings had given place to the much more sen-

sible and sanitary custom now prevailing."*

The washing, drying, and ironing were not the only difficulties the housewife of colonial times had to face, for upon her rested the burden of soap-making. "For several weeks (before soap-making period) the 'leach-tubs' stood in an outhouse filled with tightly packed hard wood-ashes from the big fireplaces, where wood was always burned during my kinswoman's life. The tubs, or rather big barrels, being filled to within about eight inches of the top with ashes, were supported upon frames, beneath which stood small wooden tubs. Twice a day the vacant space left above the ashes was filled with boiling water. This after it had slowly filtered through the ashes, became lye. Its strength was tested by an egg, or by a potato about the size of an egg. If these would float about one third of their size above the lye, it was deemed strong enough; if not, it was poured through the ashes again; if found too strong, water was added.

When enough lye of the right strength had been collected, it was put into enormous iron pots and hung from the cranes over the open fire; and though my relative had come to endure a cook-stove for ordinary things, she always used the fire-place for making soap. The fragments of grease which accumulate in every household had been tried out while fresh, and reduced to cales like tal-

*Colonial Days and Ways, Helen E. Smith, pp. 115 ff.

low, only not so hard. These were now cut up and put into the kettles, apparently by guess. Then the boiling went on. If it was all right the soap would 'cine' in half an hour. If not, it might be many hours or even days, during which water, or stronger lye, or more grease might be added, also apparently by guess."*

In 1787, while George Washington was in Philadelphia presiding over the Constitutional Convention he wrote in his diary a reaction which indicates that machinery for handling the washing was becoming an American problem, and was being considered by our best talent.

"September, 1787, Monday 3d: In Convention. Visited a machine at Doctr. Franklin's (called a mangle) for pressing, in place of ironing clothes from the wash. Which machine from the facility with which it despatches business is well calculated for table cloths and such articles as have not pleats and irregular folding and would be very useful in all large families.

Dined, drank tea (at home) and spent the evening at Mr. Morris's."

About 1800 Tryphena Ely White wrote in her Journal (page 21) "July 5, Friday, we washed in river water because we can't

*Colonial Days and Ways, by Helen E. Smith, page 115 ff.

get rain water -- there has been no rain there this three weeks past, and things have got to be very dry, we are obliged to cleanse our water before we can wash with it. we cleanse it by putting ashes into it and then boil it and skim off a scum that will rise, and after all that, it washes shockingly, our clothes don't look as they us'd to.

July 7. ....., we het water and got out lye all the forenoon, in the afternoon (Sunday) we got the kettle on to make some soap, and brew'd .....

July 9. Tuesday, we got lye and boil'd our soap all day, the soap does not seem to do well, I suppose tis owing to the water as we were obliged to make it of river water."*

In the early American homes labor was at a premium, and the number of clothes each person owned limited. It was not unusual for a mother to hand down her linsey-woolsey petticoat, unwashed, to her daughter, and thence, still unwashed to her grand-daughter. But when Ely Whitney invented the cotton gin, in 1793 a new era in cloth production began. Before this time, it had been customary to make clothing of animal skins, especially the waistcoat and breeches of the men and the petticoats of the women. Even the bed clothing was sometimes made of leather. The invention of the cotton gin was the in-

*Kellogg, Tryphena Ely White's Journal

centive that led the south into extensive cotton agriculture. In 1814 Frances C. Lowell erected in Waltham a factory which had power looms for weaving. In 1816 and 1818 the new government introduced protective tariffs, and these combined with the abundance of raw materials gave the infant industry in America a chance to develop.

The success of the Waltham mills, and the other mills which followed them made it possible for the mother and daughter to have two petticoats each, and to wash the odd petticoat whenever it was thought necessary.

This new era in the production of materials was really the birth of the American laundry industry as we know it today. The demand for unskilled labor to work in the cotton mills was followed by an influx of Europeans. This was an advantage to quantity production of cloth but a drawback to the progress of the reconditioning industry because this great increase of unskilled labor made it possible for the housewife to have some one help her with the family washing and ironing, and the housewife who did not have permanent "help" employed the village laundress to come in once a week, or if more convenient, sent her laundry out to the wash-woman.

It was, however, the patronage of the local laundress or wash-woman and the necessity of earning a living that probably inspired the founding of the first public laundry in America. At any rate in 1848 Mr. H. M. Bowen opened the Boston and

Roxbury Laundry*** to the residents of Boston. This laundry is, we think, the first laundry in America. An old laundry list, printed in 1848 by Adams, (37 Cornhill, Boston) presents evidence that the business was even then firmly established.

The plant was originally located at Washington and Hunneman Streets, Roxbury, in one of the best residential sections of Boston. Later the name was changed to the City Laundry, and the plant was transferred to West Northampton Street, still being in one of Boston's best residential districts.

Sometime in the 1860's Mr. Bowen went to Philadelphia to superintend the Preston Steam Laundry, and in 1864 he sold the City Laundry to Bryon M. Cunningham for twelve hundred dollars.

Later Mr. Cunningham married one of his laundry employees, Carrie Poor, and they lived in the house next to the laundry.

In Colonial days it was necessary for the wife to work as hard as her husband did if the necessities of living were to be provided. The work was a part of the private family life, and as no income accrued to the wife, in the form of collars and cents, no matter how

***These detailed case studies of the first two laundries in America are included as an introduction to the development of the power laundry industry in America. The study is the result of personal investigation through contacts with laundryowners, laundry employees, and laundry patrons (dating back to 1874) as well as a study of old documents nowhere available in public files.

hard she worked, the ability of the husband to provide for his family was not questioned. Laundry work had been woman's work for centuries, and was closely allied to family work. Perhaps this partly explains why Mrs. Carrie Cunningham did not drop her interest, the day of her marriage, in the City Laundry but continued her work in the plant. The City Laundry became a family institution and was watched over with keen interest and care by both husband and wife, and when Mr. Cunningham died in 1887, though the business had one head instead of two, the policy and work of the personnel remained unchanged.

The labor turnover in this plant was very small. Mrs. Cunningham did not like to see new faces in the laundry, and if one of the employees mentioned leaving, she did all she could to entice him to remain.

In 1887 when Mrs. Cunningham died the business became the property of her three children. Grace F. Cunningham Pratt sold her rights, and today the City Laundry is owned by Fred A. Cunningham and Blanche M. Cunningham Roscoe. Mrs. Roscoe is president, Mrs. Cunningham is treasurer, and Mrs. Roscoe's son is the assistant treasurer and sales manager.

The size of the plant and the methods of laundering have of course changed during the last eighty-one years, but the spirit of fellowship, and cooperation is

the same.

Katie, who has been with the laundry thirty-four years, remembers hanging the sheets and flat work on the roof to dry, and hanging the personal clothing in a dry-room heated by steam pipes and iron stoves.

Much of the work thirty-four years ago was hand work, and the women carried the flat irons from the stoves in the drying room to their ironing boards, but some machinery was used, such as a bosom roller, mangle, and shaper.

Katie says that while the women were waiting for laundry work, in the old days, they were not idle because there always were holders to be made and ironing boards to cover.

"Belle" entered the laundry over twenty-five years ago as a sorter of clean linen. She is superintendent of the sorting department today, and says that although the kinds of clothing have changed considerably since she has been connected with the plant, the methods of sorting have remained about the same.

During the 1870's the City Laundry took care of the Saturday night baths as well as the fresh Sunday linen. Tickets were issued to laundry patrons entitling them to a "hot or cold duck in the 98 Lenox Street tubs."

The plant has grown from a public family wash-house to a modern laundry, equipped with the tools necessary to

a twentieth century laundry. The old employees, who are still able to continue working are employed in the laundry and the ledger shows that the laundry has on its active customer list families that have purchased laundry service from them for over fifty-five years.

The inception of the second laundry in America is far more romantic than that of the City Laundry.

Oakland, California was in the heart of the gold district. It was a town peopled by men, with no women to wash for them. A few Chinese hand-laundries existed along the creek banks, and some of the native women in Hawaii did a long distance business with a six months' pickup and delivery service, but most of the men had to do their own work.

D. Davis came to Oakland in 1850 presumably to dig for gold, but something led him to change his mind, and to enter the laundry business. This is tradition, however, not a known truth. At any rate, on a hill-top now known as Leona Heights, but still called the Laundry Farm by the inhabitants, Mr. Davis started the first laundry, using barrels for wash tubs, a few lines hung between trees for drying, and Chinese coolies for workers.

At first the laundry was purely a hand laundry, but Charles Matee, a carpenter built a twelve-shirt washing machine which Mr. Davis hitched up to a ten-horsepower donkey engine he had purchased from a ship captain, and

the washman no longer worked at a back-breaking process, but was the engineer of a crude washing machine.

With the adoption of the washing-machine the quantity of work which could be handled far exceeded the laundry collected from the East Bay population, and so Mr. Davis soon began to operate routes across to San Francisco. The first office was located at the foot of Broadway where the San Francisco ferry docked, and was later moved to 56 Drum Street.

In 1857 unusually heavy rains occurred, the creek overflowed and the laundry plant was washed to the bottom of the hill. Undaunted, Mr. Davis built a new washhouse on the other side of Oakland. He purchased ten acres of ground, and put up dormitories for his help as well as the wash house. Part of the ten acres was used as a vegetable garden, and part as a cow pasture.

The plant played an important part in the life of the towns people. In 1869 the Oakland City directory had a list of 1884 names, and of these 93, or about one out of every twenty, were connected with the Contra Costra Laundry.

In its early years the laundry shifted from one owner to another. The date that William H. Bovee purchased it is not certain, but, it is believed to be sometime in 1854. He sold it in 1865 to Pliney Bartlett,

P. Edward Dalton, and George H. Hallett, who were route men in the Contra Costa plant. These men directed the destiny of the laundry for thirty-seven years, and in 1902 sold it to John Rosenfeld Sons. In 1903 it was made a unit in the large Metropolitan Merger which included twelve San Francisco laundries, all of which were destroyed in the San Francisco fire of 1906, except the Contra Costa Laundry.

As late as 1870 the equipment was in a very primitive stage. The washing was still being soused up and down in barrels with a lever arrangement , and hung on lines in the yard to dry. Bricklayers and carpenters reported to work in those days in stiff collars and hardboiled white shirts, and these two articles of dress swamped the laundry weekly. "Hand ironing was the rule, except in the case of sheets and other flat work; these were ironed by a cold mangle, a wooden roller covered with canvas. The sheets were taken off the line while still damp, folded and put between the roller and canvass, and the mangle rolled on the floor. The ironing department pushed two of these while a third was being gotten ready, three making up the equipment.

Hours were long, from sixteen to eighteen a day. Midnight often found the helpers still at work tying up a lot, with a strong premonition, based on experience, that

they would be called at four or four-thirty the next morning to tie up another lot for San Francisco. Their reward was breakfast as soon as they finished. It was hard, gruelling work at the best, and many of the men spent Sunday in bed, resting up so they could get through the next week.

As there was no competition, the laundry had a free rein in setting prices, which were high, and in picking its work, which it liked plain. If a fancy dress came in, it went home again with a polite rejection slip. From forty to fifty cents was charged for almost every piece of wearing apparel; not until competing laundries entered the field were prices forced down."*

The plant was almost like a training school for future laundryowners, for after serving an apprenticeship in the Contra Costa Plant such men as Peter Calou, founder of the Oakland Laundry, W. J. Brown, one of the owners of the Excelsior Laundry, Joseph Kelly, the present owner of the Yosemite Laundry and Frank Rosenau owner of the New Method left to later start a business of their own.

At the time of the earthquake and fire, in 1906, when W. W. Crowley was superintendent of the plant, the staff put in five stiff months. With every laundry in San Francisco a mass of smoldering ruins, it was to the Oakland

*Pacific Laundry Journal, February 1926, page 5

plant that the public turned for help. This plant had not escaped undamaged. Its towering brick smoke stack had been knocked down on top of the boiler room, and an old brick portion of the building had caved. For eight days all laundering processes had to stop for repairs, but at the end of that time day and night shifts began work. Four hundred fifty employees did their best to clear the work that flooded in and floored the plant, coming from every ship that steamed into the bay; from every train routed into the district; from refugees; relief workers; hotels; and all the homes in the East Bay district. The routeman had to be instructed to limit the size of the bundle, and the new machines installed before the volume could be taken care of. But it was not until the completion of the new Metropolitan in San Francisco that conditions returned to normal.

Today the Contra Costa Laundry is equipped with the latest type of machinery, and provision is made for every possible detail of efficiency, comfort, and safety. The building is of reinforced concrete and brick, of the one-floor mezzanine type that has become standard in the west, and finished in buff plaster. Its walls are practically a solid surface of glass.

The cafeteria, rest rooms, first aid service, leather mats to stand on, and running ice water provided for the employees are a striking contrast to the working conditions of twenty years ago.

The City Laundry, and the Contra Costa Laundry, are undoubtedly the first laundries in America, but the laundryman who receives the greatest credit for bringing power washers to commercial practicability, is Captain Hamilton E. Smith.

In 1858, the thought of the future possibilities of the laundry business by power machinery occurred to Captain Smith, He immediately began to experiment with washing machinery. Friction machines were the only ones known at that time, and his first washer, 1859, was a rotary machine with a perforated cylinder operating within a case holding the suds. This was perfected and patented in 1862, and in 1863 he perfected and patented a reciprocating mechanism to reverse the motion of the revolving drum in the washer.

Early in this same year (1863) Captain Smith went to Pittsburgh and after fitting the St. Charles Hotel with rotary washers, and English box mangles, started a laundry. Later he established a laundry in the Monongahela House, and one in the Western Penitentiary in Allegheny City.

During the year 1863 he developed a Public Laundry for general custom work at the corner of Market and Cherry Streets, Pittsburgh. This was the first public Custom Steam Laundry in America.

The general government at Washington had been watching

Captain Smith's work for some time, and on recommendation of the military department of the Monongahela he received general orders to fit up all the military camps in the Southwest. He was doing this when the war was brought to a close in 1865.

Captain Smith also developed the present day flat-ironer. Patent No. 188,865 is the forerunner of such machines as the Troy, Dolph Hagen, and Empire. During his life-time he had issued forty-nine patents on laundry machinery, and at the time of his death had sixteen patents under way.

Oriental--Japan

The housewife in Japan washes almost every day in fine weather. The washing is done in the kitchen, or wash house, (an unfloored part of the dwelling.) The housewife or laundress does not have running water at her disposal but has to fetch the water in pails from the nearest pond or river.

The task of washing clothes is much harder here than in Europe and America as the housewife has to attend to both European and Japanese clothes. Most of the men and children dress in European style, but the women still keep to the Japanese costumes.

The climate of Japan has caused the inhabitants to supply themselves with three different kinds of clothes, (kimono).

The unlined clothes for summer wear; the lined clothes for spring, and fall; and the wadded clothes for winter. The unlined clothes are often washed as they are, but in the early spring or in the early autumn, just before they are put away until the next period of use, these clothes are ripped to pieces and washed. This is to make them ready for the time when they will be made over for the next year's use.

The lined and wadded clothes are usually ripped before each washing. As all of the sewing is done by hand, the women have to be very industrious.

After the clothes are ripped and washed they are dried, on the roof drying-platforms. "These square platforms, which also serve as a cool place to sit in the summer evenings, have tall posts at each corner, between the tops of which notched strips of wood are placed. The washing is hung on bamboo canes, and with the help of a long bamboo pole with a fork at the end these are hoisted up and placed in the notches of the crossbars."*

The housewife has two choices in her method of drying the ripped material. One is the "Shinshi" and the other the "drying-board method."

If the Shinshi method is used the clothes are starched and ironed (without the use of an iron) and dried at the same time. Each end of the material is at-

*Report presented to the Conference of the Co-operative women's Guild at Stockholm, August, 1927

tached to a wooden rod, and hung up like a hammock. Then the shinshi sticks (thin bamboo sticks with a pin at each end) are attached to it side by side all down the back to keep it spread out. After this is done the cloth is starched with a brush, and then dried in the sun. The shinshi method is popular in treating silks.

If the drying board method is used, the material is starched first and then pasted on to a board seven feet by fifteen inches. If the material is longer than seven feet, both sides of the board are used. After the material dries on this board it is peeled off.

China

In China the poorer people take their laundry out and wash it on the banks of the streams. The greater part of the work is taken care of individually, and when it is sent to an outside agency, that agency is the Chinese laundry where work is done very cheaply.

If the water is heated for washing it is heated in crude containers over a charcoal fire, and most of the irons are of the charcoal heated type.

It has been a custom for many centuries in India to send the family washing to the "dhobi" or Indian washerman. His work is not very sanitary, but the natives are accustomed to it, and it is cheap. The dhobi has used the same methods and the same tools for washing for many centuries and there are very few modern laundry

conveniences used throughout the country. The average housewife does not participate to any great extent in the housework, and as labor is cheap and plentiful enough to permit a generous number of servants, the favored class are satisfied to employ a larger number of servants and permit them to work leisurely.

In the East Indies the clothing is changed two or three times a day, and as it is only soiled with perspiration the "baboe tjoetji" or laundress does not heat the water to wash the clothes.

The heavier pieces are not done by the "baboe tjoetji" but are sent out to the "penatoe" or washerman. He soaks the clothes in the river and then beats them on rocks or a specially made board with a corrugated surface resembling the old-fashioned wash-board.

The average European home in India has as its laundry equipment a few galvanized tubs, some laundry soap, a clothes line strung from one tree to another, an ironing board, and an iron heated with "areng kajoe" or charcoal.

Part II

Present Day Conditions

Volume of Work

Twenty-five years ago, all that was necessary to enter the laundry business, was the good-will of a few customers, a basket, tub, wash-board, sad iron, a rope strung from one tree to another, and a few clothes pins. Countless stories of men who started with no financial backing, who collected their first laundry bundles in baskets carried on their shoulders, and the gradual growth of their business with the consequent adoption of labor saving machinery could be told.

It is natural, since we know comparatively little of the history of the laundry industry, and since no records were kept of the early laundries in America that we have no accurate knowledge of the volume of work done.

In 1909, when the United States census was taken, 5,186 laundries were established in the United States, employing 109,486 wage earners, and doing a business amounting to $104,680,086. Since then the volume has increased rapidly. The total volume of business in 1927, according to the preliminary report issued by the United States Bureau of Census is 4.08 times the volume of 1914.

In 1925, each individual in the United States was spending an average of about $3.07 a year, or 5.9 cents a week for laundry work. This figure needs to be weighted, as leaders in the Laundry Industry estimate

Size of Laundry Plant

Census Years	Establishments Reporting		Average Wage Earners		Volume of Business	
	No.	%*	No.	%*	Amount	%*
1909	5,186	100	109,484	100	$104,680,086	100
1914	6,097	100	130,641	100	142,503,253	100
1919	5,678	100	131,879	100	236,382,369	100
1925	4,859	100	169,200	100	362,294,749	100
1927	5,962	100	203,215	100	453,877,518	100
Classified by Amount Received for Work						
1909	1,341	25.9	4,268	3.9	3,779,904	3.6
Group A** 1914	1,458	23.9	3,976	3.0	4,130,136	2.9
1919	797	14.0	1,390	1.1	2,566,532	1.1
Group B--Business of $5,000 to $20,000 Annually						
1909	2,359	45.5	27,522	25.1	25,072,052	23.9
1914	2,756	45.2	28,064	21.5	29,074,763	20.4
1919	2,061	36.3	14,429	10.9	23,517,926	9.9
1925	1,162	23.9	8,430	5.0	14,644,414	4.0
Group C--Business of $20,000 to $100,000 Annually						
1909	1,346	26.0	56,605	51.7	54,383,604	52.0
1914	1,630	26.7	63,915	48.9	69,077,362	48.5
1919	2,236	39.4	59,490	45.1	101,788,300	43.1
1925	2,635	54.2	61,119	36.1	125,497,027	34.7
Group D--Business of More than $100,000 Annually						
1909	140	2.7	21,089	19.3	21,489,526	20.5
1914	253	4.2	34,686	26.6	40,220,992	28.2
1919	584	10.3	56,570	42.9	108,509,601	45.9
1925	1,062	21.9	99,651	58.9	222,153,308	61.3
Classified by Character of Ownership						
Group E--Corporations						
1909	1,158	22.3	55,485	50.7	54,111,978	51.7
1914	1,541	25.3	73,135	56.0	82,653,996	58.0
1919	1,698	29.9	77,815	59.0	143,048,526	60.5

Group F--Individuals

1909	2,770	53.4	32,754	29.9	30,320,840	29.0
1914	3,126	51.3	34,344	26.3	35,809,083	25.1
1919	2,807	49.4	33,978	25.8	57,781,029	24.5

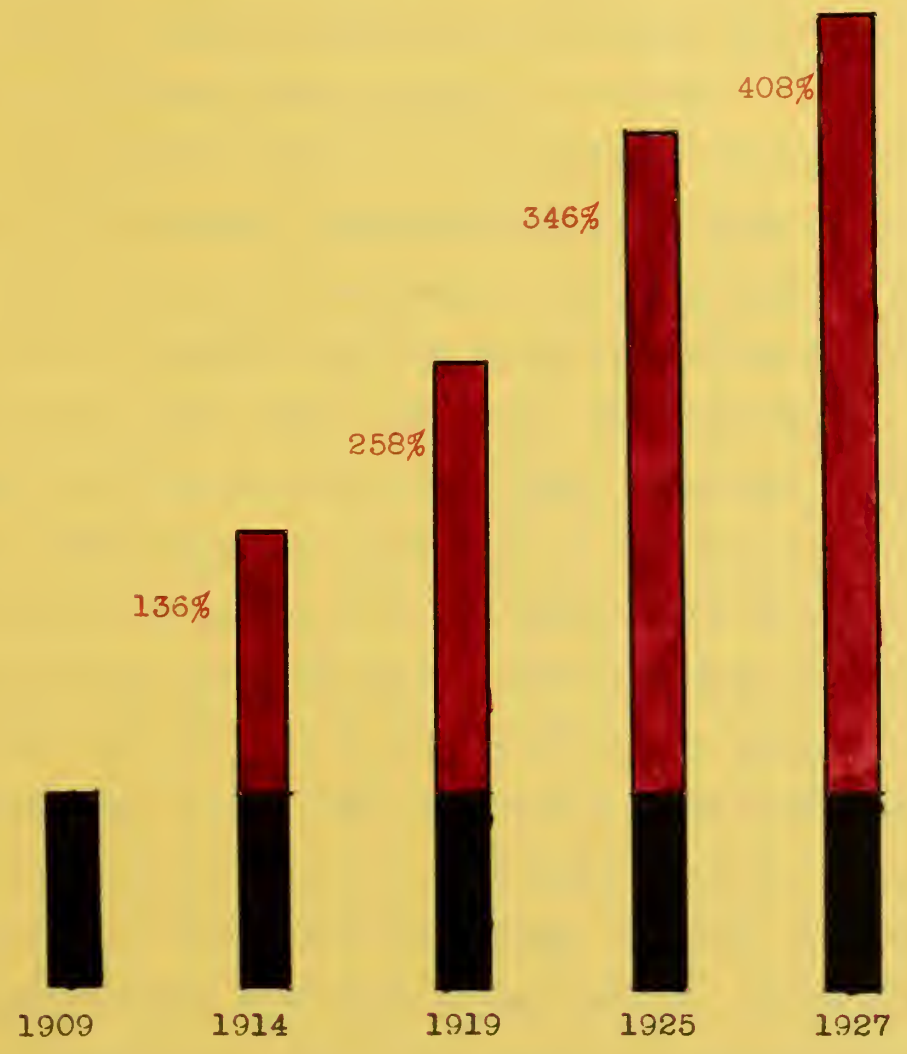
Group G--All Others

1909	1,258	24.3	21,245	19.4	20,247,268	19.3
1914	1,431	23.4	23,163	17.7	24,040,174	16.9
1919	1,173	20.7	20,091	15.2	3,555,204	15.0

* Per cent equals total per cent reported to the government, not the total number of laundries in the country

** Group A--Business of Less Than $5,000 Annually

Rate of Increase in Laundry Volume



Black columns represent volume in 1909. Red represents increase over 1909.

that only 75% to 80% of the laundries reported. Probably $3.84 per capita would be more nearly accurate.

The average per capita sales is for the entire country. In the larger cities, the per capita sales is greater, and in the country and villages it is less.

In a report issued by the Department of Commerce, Bureau of the Census, MANUFACTURES: 1919, page 3, "Comparative statistics are presented.....by geographic divisions and states, together with the urban population for the census years 1919, 1914, and 1909. The industry is largely confined to cities and towns, and hence it is thought that the urban population of the country, the same being taken for places of 8,000 inhabitants or more, is a better basis for population comparison than the total population of the states, and is therefore used in this presentation. ..... The states are grouped by geographic divisions so as to bring together those operating under similar industrial conditions, and this arrangement has been followed with most of the tables. Every state is represented by a sufficient number of establishments to permit of the statistics being given therefor. In 1909 the average amount received for work done per unit of urban population was $2.77. In 1914 this average was $3.60 and in 1919 it was $5.02, the increase being of course due largely to enhanced costs and values. The highest ratio of amount received for work done to unit of urban

population was in the Mountain division, $13.19, followed by the Pacific division with $11.29, and the West South Central with $7.55. A number of states show decreases in number of persons employed, notably Delaware, New Hampshire, Vermont, and Pennsylvania."

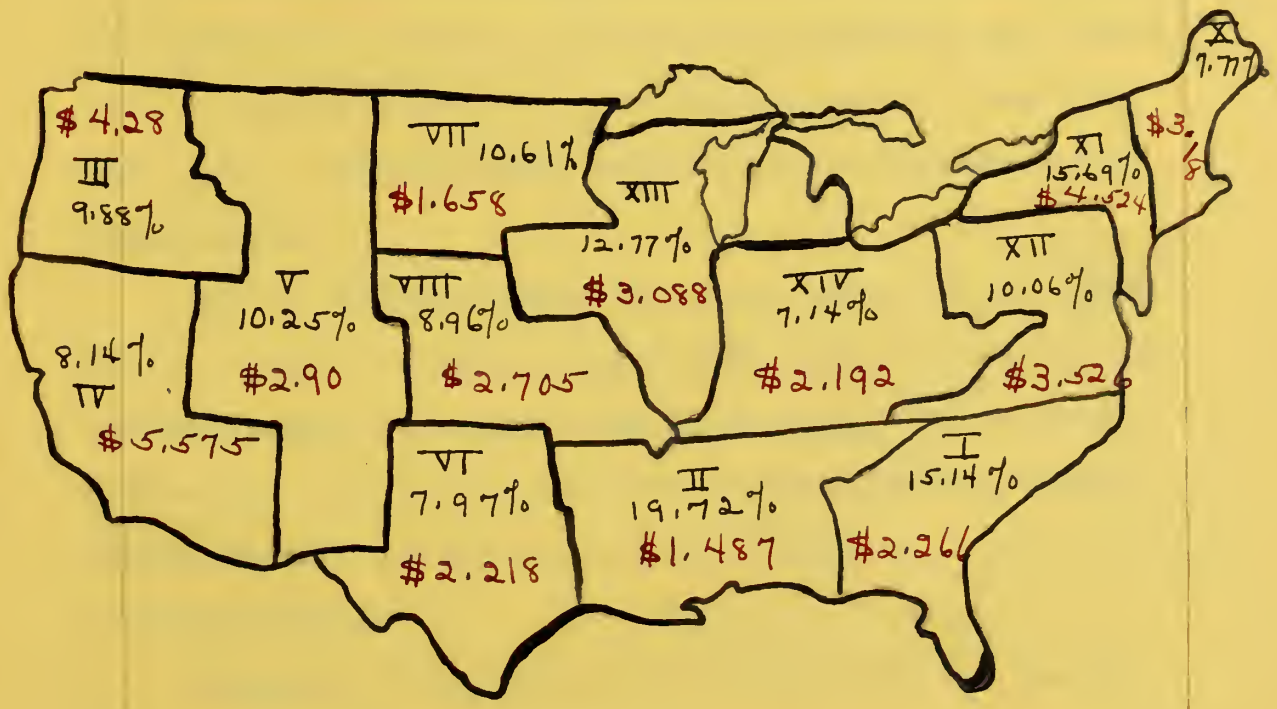
Another index to the growth of the industry is the great increase in the number of laundries doing a business of more than $100,000. In 1909 there were 140 laundries doing a business of $100,000 or more, and in 1925 there were 1062, and increase of 758%. In 1909, 20.5% of the volume of the business was done in group D and in 1925, 61.3% of the volume fell in group D. (page 50)

The increase in number and volume of plants doing a business of $100,000 and over was offset by the decrease in the number doing a volume of $20,000 or under. The number in this last group fell from 3700 laundries in 1909 to 1162 laundries in 1925, and the volume of business in this group fell from 27.5% to 4%.

Mr. Charles S. Riley, President of the Model Laundry Company, Cincinnati, Ohio, recently sent out a questionnaire to determine as accurately as possible the increase in the family bundle for the first six months in 1928, as compared with the volume for 1927. The analysis was based on the fourteen districts the Laundryowners National Association has created in the United States and Canada. These

Increase, and Rate of Increase of Laundry

Patronage



District number, and increase in district for first 6 months in 1928, in black

Amount spent per capita in each district for the year 1925 in red

districts are shown on the chart on page 55.

It was found that the family bundle had increased 10,91%, an average covering all of the United States territory.

The volume of laundry service for 1925 was greater in districts 3, 4, 10, 11, 12, and 13, including the states on the Pacific coast, the New England states, New York, New Jersey, Pennsylvania, and the states bordering the Great Lakes.

This is rather interesting as a check on our early history, which brought out the fact that culture and advancement seem to follow hand in hand with cleanliness. The states credited in the 1925 census with the larger per capita laundry allowance, are the states we look to as the leading states.

Economic conditions in the states with the lesser allowances are changing, in the southern states, for example, cotton is being made into cloth in southern mills instead of being shipped to a New England manufacturer. As the income level is rising in these states, the standard of living is rising and it is in some of these states that we find the greatest increase in laundry service.

Another significant factor brought out in Mr. Riley's survey is the fact that the commercial laundry is beginning to play an important part in the life of the rural home manager. The rate of increase of laundry patronage in cities

having a population of 1,000,000 or over was 16.01%, while the rate of increase in towns with a population under 2500 was 21.75%. The greater increase of patronage by the home manager in the country town is understandable when we stop to realize that the country home manager is only beginning to take for granted the social comforts and luxuries that her city neighbor enjoys without a thought.

Technical Problems
Textile Classifications

Successful reconditioning is dependant upon the technical perfection of the orignal fabric. We digress therefore to consider production problems as they are related to selective judgment on the part of the consumer.

Over eight billion yards of cotton goods, alone, are manufactured and used in this country every year.

In 1926, the United States Department of Agriculture issued a bulletin, Number 1449, stating "The Greater proportion of textiles bought by the average family and most of the garments made in the home are of cotton. Therefore, the careful selection of these materials means the saving not only of money but also of time and effort of the housewife."

The great variety of kinds of materials she has to choose from, and the rainbow of colors* are a comparatively new experience as the ability to choose, not one, but several frocks is a novel privilege.

The American homemaker knows very little about the textiles she is using today. In Colonial days she knew fabrics, for she not only made the family garments, but she

*The appearance of large color ranges in the textile market is primarily due to Perkin's accidental discovery of mauve (aniline color) in 1856.

also made the cloth from which the garments were fashioned, whereas the homemaker who makes her husband's suits or shirts today is rare, and it is no compliment to tell her that her dress looks home-made.

The propaganda during the war taught the homemaker that more was expected of her in her purchase of materials. She must learn what the materials she was using were, and how she could use them to the best advantage. The qualities any homemaker should look for are: width, texture, weighting, fineness, elasticity, strength, and durability, as a basis both for initial fitness of purpose and aptness for reconditioning.

The Economic factor of mass production has tended, however, to make style of greater importance than durability in the consumer's mind.

The manufacturers are turning out a quantity of adulterated fabrics, and it is the homemaker's business to know what she is buying, and to watch that she does not pay too large a price for something which she does not get, or to believe too much in a merchant's false representation which is only revealed during the laundering processes.

Cotton is the cheapest of fibers, and is not often adulterated with another fiber. Sizing is sometimes added, however, to give it a deceptive appearance, and if it is, after the material is washed it becomes sleazy. There are a number of finishes given to cotton materials and decep-

tive names attached to these finishes such as tussahs, voiles, economy linens, poplin, Canton flannel, and outing flannel.

Wool is a more expensive fabric, and the temptation to adulterate it is greater. The felting quality of the fiber conceals the cotton fiber in the material, although this concealment cannot be made in yarn. The demand for wool is so great that even cuttings from tailor shops, old garments, and short fibers are reworked into materials. In some cases the reworked fibers are fairly strong, in other cases they are not.

Cotton-and-woolen dresses do not launder well as the wool shrinks and the cotton does not. Cotton-and-woolen undergarments are sanitary, provided that the cotton is next to the body, as the cotton absorbs the moisture from the body and gives it up gradually to the wool.

Adulterated materials do not wear as well as the pure materials. They are cheaper but the wearing quality causes a serious economic waste which falls on the group that can least afford it.

Raw silk costs about thirty times as much as cotton and it is easily adulterated. The best way to test silk is to burn a thread. Pure silk burns slowly, leaving a small amount of ash in a crisp ball--or if the fabric is burned, a crisp edge. If the manufacturer's name is on the selvage, the material is quite likely to be good as

he would not be apt to flaunt his name on a poor material.

Linen, too, is often adulterated, and in many cases cotton is made to look like linen, when no linen is present. Cotton thread is easily distinguished from linen thread, as when rubbed between fingers it is fuzzy and when broken has tufted ends. Linen, on the other hand, is smooth and has a fine pointed end when broken.

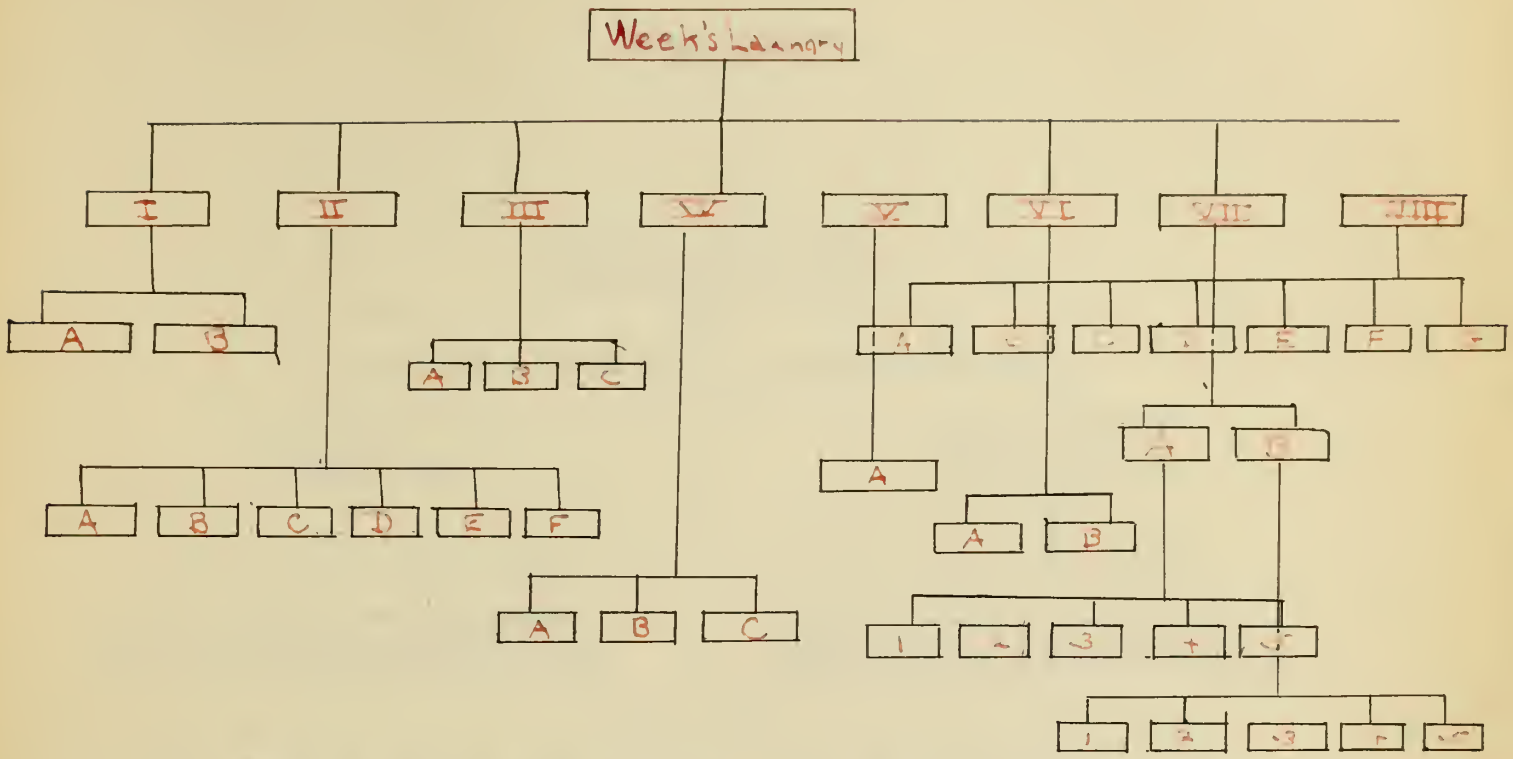
When the art of weaving textile fibers into fabrics was taken from the home, women began to lose their ability to determine the quality and value of the great variety of adulterated goods the textile mills turned on the market. The skill of judging textile quality has become so rare that even the more intelligent homemanager has to rely on the statement of the retail drygoods merchant. She can purchase her material from a reliable firm, and probably secure a material of better quality, but she does not know, when she purchases the material, whether she is paying a higher price because the material is of a better quality, or because of the prestige of the merchant selling the goods. If she purchased a cheaper material at the same time she purchased the more expensive material, and subjected both materials to identical wear and laundering, she would be in a position to state the comparative value of the two, but her ability in choosing the next material would not be greatly increased.

There are hundreds of varieties of cotton, linen, wool,

silk, rayon, and adulterated materials on the market, and to know the materials, and the quality of the materials, would take more time and effort than the average woman feels she can afford.

Realizing the growing complexity in this field, the Laundryowners National Association since 1911 has maintained a fellowship at the Mellon Institute of Industrial Research to study textile fabrics and to aid the homemaker in their scientific selection and care. Dr. George H. Johnson, who is the Senior Industrial Fellow, published in 1927, "Textile Fabrics, Their Selection and Care From the Standpoint of Use, Wear, and Launderability. In chapter six of this book, he lists and describes eighty-six fabrics that are commonly encountered in the power laundry. Mr. Johnson's study was carried on to discover the peculiarities of all kinds of textiles, and the best way to handle them, so that they will wear longest. Individual washing formulas were worked out under his direction for each type of textile, and distributed to the members of the Laundryowners National Association. As a result of his research textiles are carefully analyzed and segregated according to type when they enter the laundry. A few minutes study of the charts showing the divisions the laundry sorts the clothes into, will do much to convince the home manager how much more scientifically the institution is prepared to attack the laundry problem.

Laundry Service



I. White shirts and collars
   A. Silk filling
   B. Bedford cord, washed by hand

II. Colored shirts
   A. Basic colors
   B. Direct cotton colors
   C. Diazotized and developed colors
   D. Sulfur colors
   E. Reduction vat colors
   F. Aniline black

III. Family flat work
   A. Bleached
   B. Unbleached
   C. Colored

IV. Woolens
   A. Chrome colors
   B. Acid dyes
   C. Blankets

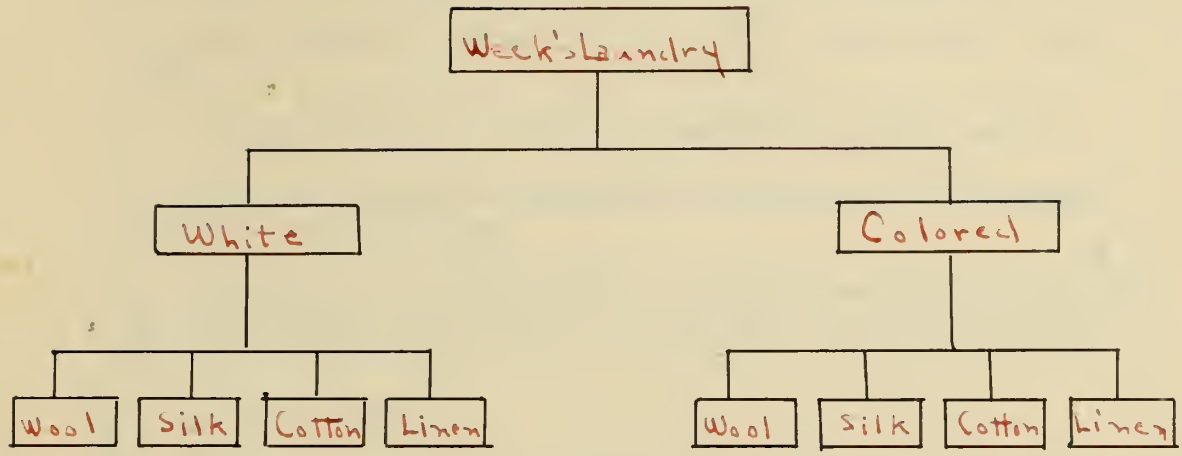
V. Colored Rough Dry

VI. Silks
   A. Colors
   B. Stains

VII. Knit Underwear
   A. White
      1. Cotton and arti. silk
      2. Cotton and wool
      3. Cotton
      4. Silk and wool
      5. Fleece lined
   B. Colored
      1. Cotton and artificial
      2. Cotton silk
      3. Cotton and wool
      4. Silk and wool
      5. Fleece lined

VIII. Stockings
   A. Cotton
   B. Silk
   C. Wool
   D. Cotton and silks
   E. Cotton and artificial silk
   F. Wool and silk
   G. Wool and artificial silk

Home Record



Refer to preceeding plate for comparison of the technical development of the commercial service.

Weaving Imperfections*

1. Thick or thin places--due to the number of filling threads per inch varying from the specified count.

2. Puckers--defects in a fabric that are due to the presence of a number of slack or tight warp threads.

3. Bad start-up--due to the faulty starting of the loom.

4. Slugs--bunches of lint enmeshed in the weave.

5. Floats--defects caused by improper interlacement of warp and filling.

6. Mispick or broken pick--a streak across the width of the fabric caused by a missing or partly missing filling thread.

7. Dirty threads.

8. Wrong draw--a streak that occurs lengthwise in the fabric where the filling floats over more than one thread due to a warp end being drawn through the wrong harness.

9. Oil spots.

10. Sewed thread--a thread in the fabric interwoven by hand.

11. Imperfect selvage--due to being too tight, loose, or weak.

12. Missing warp thread--a place where part of the warp thread is missing.

13. Reed marks--an irregularity in the warp count of the fabric due to a sprung reed or other cause.

14. Split or chafed yarn--one or more ends of a ply yarn being broken in the fabric and chafed into a bunch.

15. Smash--a place where the warp threads have been broken due to a shuttle getting caught in the warp shed.

16. Knots.

17. Wrong ply warp or filling threads.

18. Mixed filling.

Chapter 6, Dr. G. A. Johnson's Textile Fabrics

After the clothes are sorted the laundryowner knows that his work is only begun, for his success in washing depends upon the care with which he follows the formula the research department at Mellon Institute has prescribed.

The scientific work the Laundryowners National Association is doing, is not going to prevent faulty materials from wearing out rapidly, however. Dr. Johnson lists, on page 147 of Textile Fabrics, eighteen weaving imperfections that are scarcely noticeable until after laundering. (The list is on page 63) The housewife who does her own washing, puts the blame where it rightfully belongs, but the homemanager too often blames it on the laundry.

During the year 1928, the Laundryowners National Association formed a Committee on Textile Relations to eradicate the idea "Oh, you evidently sent this to a laundry!" and to educate the homemanager to a realization that faulty materials cannot be expected to wear. The committee has brought to the attention of the textile manufacturers the fact that the laundry industry has put forth every effort to eliminate those practices which are harmful, and to strengthen right attitudes between consumer and producer, based on honesty, and a task well done; and has endeavored to have a similar house-cleaning undertaken in the textile industry. This work is in its infancy, when it is really under way, however, it will probably do much to improve the quality of merchandise offered to the home manager. It is

hoped that the Committee will succeed in developing, through the cooperation of the Textile Association a standardization and grading of textiles which will be easy to understand and available to the general public. If this hope is realized, and textiles are graded and marked, defective or inferior merchandise will no longer be misrepresented by a retailer or manufacturer.

The textile manufacturers have recently acknowledged that the research carried on in the textile field by the Laundryowners National Association has been distinctly superior to any done by the textile industries.

Customer Classifications

In the survey made by the Bureau of Consumer Research, 1927-28 on consumer reaction to laundry service, less than half of the 700 homes studied, 47%, considered the service satisfactory, and less than one-fourth, 23%, considered it reasonably good. 29% expressed no opinion, and 1% stated definitely that service was unsatisfactory.

The fact that under these circumstances customers persist in laundry patronage is a testimony to the strength of demand for the service, as well as a powerful incentive toward improvement on the part of the laundryowner.

The objections listed by the laundry patrons, dissatisfied with the service are:

1. Wear and tear on clothes

2. Work poorly done
3. Loss
4. Discolored
5. Expense
6. Lack of care
7. Mixed with other people's washings
8. Unsanitary
9. Unsatisfactory collection and delivery service
10. Use of chemicals
11. Odor

Unwise selection of material for the wear it receives, defective or inferior quality, mistreatment by the customer, improper laundering methods, and ignorance of the sanitary laws are explanations of this list.

The weave of the material chosen often has a distinct bearing on the life of the garment. In a plain weave the threads alternate, first going over one thread, and then under another thread. The mass of threads are thoroughly interlocked and a strong fabric built. In the fancy weave fabric some of the threads are not interwoven, and are easily pushed out of their proper position. Dr. Johnson says: "This method of manufacture (fancy weave method) intended to create a pleasing design, produces a condition in wear and service which frequently brings criticism on the laundry, although it has absolutely no responsibility in the matter." (Leaflet No. 3 distributed by the L. N. A. Department of Research, Mellon Institute of Industrial

Research, Pittsburgh, Pennsylvania.)

A defective or inferior quality is naturally a source of trouble. The home manager who buys "seconds" either at a bargain counter where the goods are marked seconds, or at a less reputable store where second quality merchandise is sold as first ouality, is annoyed when the laundry returns garments or other pieces with a hole or bad break in them.

Many companies, proud of their trade mark still sell sub-standard merchandise as seconds to some jobber. The jobber disposes of the material, however, and the consumer eventually receives and uses it.

Mistreatment of the garment or pieces by the home-manager seriously affects their life, too. The man who carelessly wipes his razor blade on a towel, or who plays with his fork, running the prongs along the table cover, destroys threads in the material and decreases the duration of wearing service.

"Garments and pieces are very frequently damaged in the home because of contact with corrosives and generally to the astonishment of the home manager. Pharmaceuticals very often are corrosive to textiles; for example, witness the trouble experienced when laundering hospital linen and physicians' coats or nurses' aprons. Deodorants sometimes are corrosive, as are certain foot-powders and cosmetics. Wet radio and auto batteries, wherein sulfuric

acid is the exciting liquid, have caused a considerable amount of trouble. Whenever a fabric shows evidence of the presence on it of some unknown household compound or medicine, it is a safe rule to rinse out the piece at once in water. Usually it is only when a corrosive is allowed to dry upon a fabric and become concentrated that it attacks fibers. Of course, there are countless compounds found in the home that are non-injurious to fibers; but unless their composition is well known, it is advisable to follow the suggestion of rinsing out the garment at once."*

Natural agencies such as sunlight, perspiration, mildew, bacteria, mice, ants, and moths decrease the life of material.

A wife of a prominent production manager thrust a favorite embroidered pillow case at him saying: "There, see what your old laundry has done." Mr. B looked at the pillow case, and found that while one side was apparently as good as new, the other side was badly worn. Much puzzled, he took the pillow case with him to the laundry and showed it to the wash-room superintendent. Finding no explanation of this unusual wear, at the laundry plant, later that same day he took it to Massachusetts Institute of Technology and asked them if they could explain why the front of the pillow case was in good condition, and the back, worn out.

*Selection and Care of Textile Fabrics, by Dr. George Johnson, Science in the Home, page 48

After a careful analysis a report came from M. I. T. that evidently the pillow case had only been used on one side, because the loss of tensile strength was caused by perspiration. Checking this, Mr. B found that each night his wife had turned the pillow over to prevent any accident occuring to the beautifully embroidered monogram, and he was able to convince her that the laundry was not to blame after all.

Many housewives who complain that the laundry uses chemicals, do not realize that the housewife uses chemicals, too. And the average housewife does not know whether the chemicals she is using are mild, or strong.

"Tri-sodium phosphate, one of the most valuable household chemicals ever discovered, apparently has no press agent and so far has escaped the notice of madam housekeeper. If she uses it, at least she does not know it. A survey of the wholesale chemical market, however, shows large quantities of the phosphate going out quietly, soon to emerge under a variety of fancy labels, with various colors and at enhanced prices. Much of this material is adulterated with cheap washing soda.

As a washing powder tri-sodium phosphate has proven to be a remarkable preparation."*

Tri-sodium phosphate is a mild chemical, but washing soda which is the chemical used in most wash powders

*Household Chemical Has Aliases, Science News-Letter May 19, 1928 (No author named)

sold under a fancy name is a harmful chemical if not used intelligently. Careful directions for the use of washing powder are printed on most packages, but as the average woman does not follow the directions, the washing powders are a menace to the life of the fabrics.

The department of Commerce at Washington recently sent a questionnaire to the largest drygoods store in the United States, and a report from this questionnaire gives a striking example of faulty home washing. (Page 71)

Improper laundering methods covers the complaint "lack of care" and "work poorly done." The homemanager must not forget, however, that there are first-class laundries, second-class laundries, and third-class laundries. If she patronizes a third-class laundry she cannot expect first-class service, any more than she can expect first-quality merchandise purchased at a second-quality store.

The Laundryowners National Association has been doing much to raise the standard of member plants, and to lessen the quantity of poorly or carelessly washed clothes, and the high standard of wash-room practice is distinctly higher than it was twenty years ago. The majority of the more progressive laundries are members of the Laundryowners National Association and cooperating with the Association to produce a high quality service, but there still is a large body of non-member plants (311, or 56% of the total laundries

Textile Maintenance Notes, February 18, 1929, page 1

"Four out of every ten customers in the past six months have had a washing failure and in addition one in every ten has had recent general difficulty in washing fabrics. Dves, shrinkage, fabric construction and weighting were blamed for these failures.

Eleven hundred and seventy-six consumers out of 2,207 testified to having had 1,625 recent washing mishaps with fabric and garments of all kinds and prices, and 245 customers reported 365 recent general washing difficulties with all kinds and classes of fabric and garments.

"Colors were blamed 996 times, shrinkage 438 times and weighting, faulty fabric construction were blamed 136 times, by the customers who had recent washing mishaps.

Eight hundred and sixteen of the 1,119 washing failures occurring within the past six months happened in the first wash according to customers' testimony.

Most retailers agree that faulty home laundering is a major cause of washable complaints and so find it necessary to caution customers through sales clerks as to proper care and method of laundering."

in America, December, 1928) many of whom are affecting public opinion unfavorably by the careless quality of work they produce.

The alert home manager should check up on the standing of the laundry she patronizes, just as she checks the reputation of the grocer for the sanitary condition of her food, for her own clothing and her family's clothing affect their physical well being, just as much as the food they eat.

In a survey made by the Bureau of Consumer Research of Boston University in 1928 in an effort to determine whether the average hygienic performance of laundries is estimated to be sufficiently high to safeguard the householder as well as or better than any other method of handling the family linen, 80.28% of the officers reported that in their opinion the laundry was as safe, or safer hygienically than any other method. There was a one hundred per cent agreement that the power laundry is much safer than the Chinese laundry, the colored wash-woman, or the wash-woman who comes in by the day.

Between Consumer and Plant

One of the most serious problems the production manager has to consider is the persistence with which the homemanager follows traditional customs. 68.3% of the laundry patrons in the survey made in 1928 on consumer reactions to laundry service list Monday morning at ten

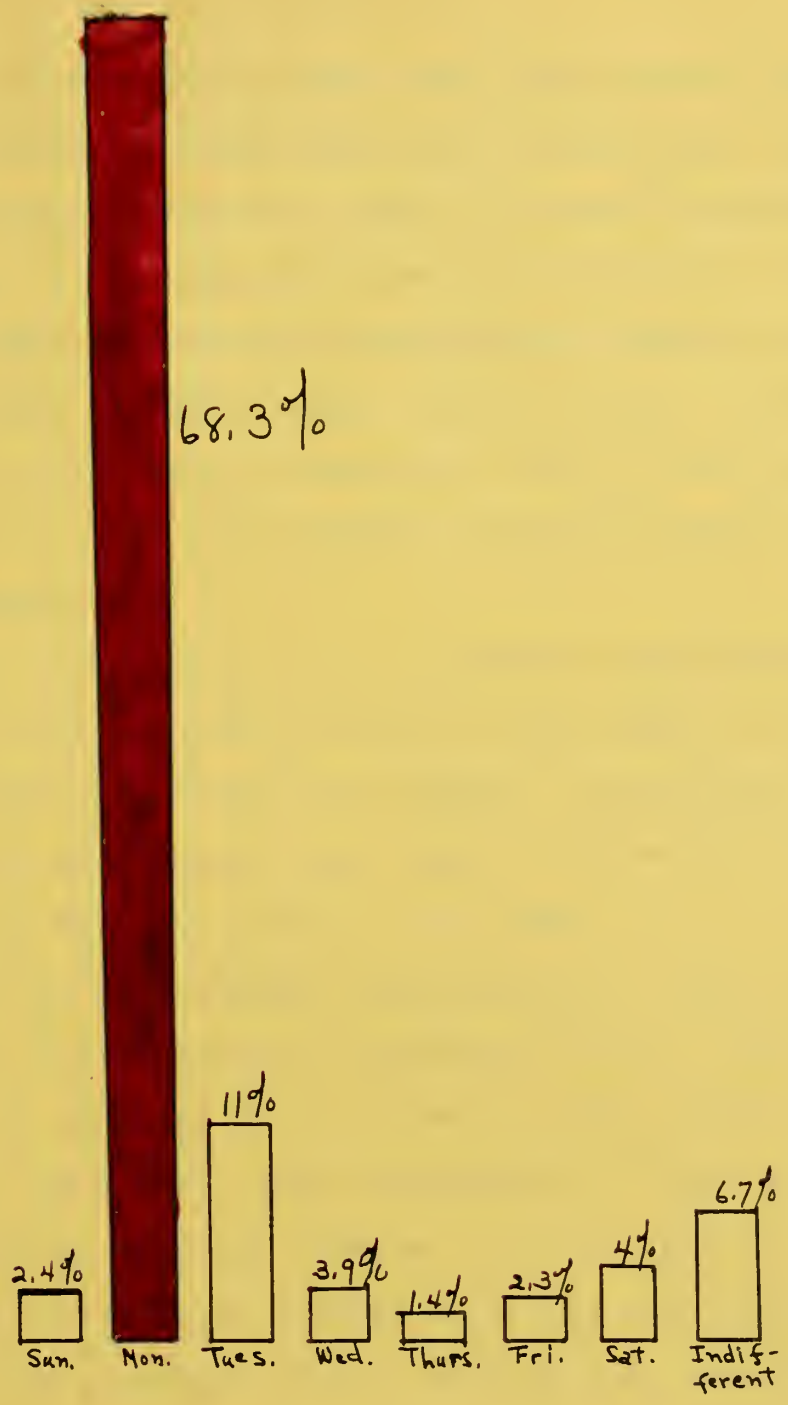


Chart showing per cent of home managers wishing laundry collection each day of the week

o'clock as the day and hour they wish to have their soiled linen collected while 11% list Tuesday. Such data as this indicates to what an extent the individual consumer is regarding her personal convenience and comfort. This insistence on traditional habits, explains why so many laundries begin work at midnight Sunday, work at full capacity during the first of the week, and are closed or on part schedule during the latter part of the week.

The laundryowner has to purchase enough machinery to do a week's business in two or three days, and employ enough labor to handle the volume. His employees are worked at high tension the first of the week, and are left idle the latter part of the week.

If the home manager would cooperate with the laundryowner this unnatural condition would not exist. Linens washed on Thursday are as clean as linens washed on Monday, and a more even distribution of "wash-days" would permit a better service at a lower price. Better, because the employee working at a more even rate of speed does a better and more uniform job; cheaper, because the laundryowner would not have to include machines that stood idle part of every week in his overhead expenses.

Relation of the Power Laundry to Individual In Schools

In an effort to discover how the laundry problem is handled in the public schools in the United States, a questionnaire was sent from the Bureau of Consumer Research on October 5, 1927 to the State Supervisors of Home Economics Education in each state in the United States and to the Director of Home Economics Education in each of the United States' territories.

The questionnaire was divided into eight parts in order to gather statistics on the following points:

1. Whether Laundry Methods is given separately or as part of some other course.

2. The average total time spent in teach Laundry Methods.

3. Whether the work is required or elective.

4. The sex of the pupils taking Laundry Methods.

5. Whether any comparison is made in class work of home and commercial methods, costs, and results.

6. Whether the laundry is presented as a typical problem involving the relation of home and community on either the economic or social groups.

7. Whether any studies have been made in the schools of:

   a. The number of school children assisting with laundry work at home.

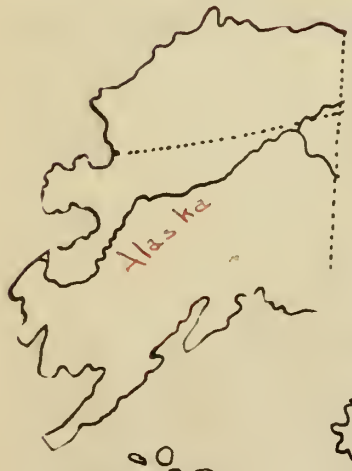
   b. The percentage of homes in which laundry is no longer considered a domestic problem.

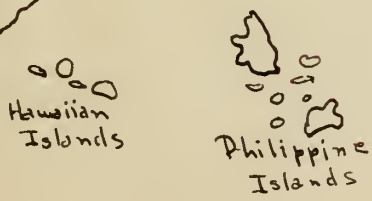
8. Whether Home Economics classes make visits to

Territory Covered in Survey

Alaska
Arizona
Arkansas
Colorado
Connecticut
Delaware
District of Columbia
Florida
Georgia
Honolulu
Idaho
Illinois
Indiana
Iowa
Kansas
Kentucky
Louisiana
Maine
Massachusetts
Michigan
Mississippi
Missouri
Montana
Nebraska
New Hampshire
New Mexico
New York (2)
North Carolina
North Dakota
Ohio
Oklahoma
Pennsylvania
Philippine Islands
Rhode Island
South Carolina
Texas
Utah
Vermont
Virginia
Washington
West Virginia
Wisconsin
Wyoming (2)
Oregon

Chart Showing
Territory Covered in Survey





States which are not labeled failed to make a return

The District of Columbia was included but does not show (clearly) on the map.

commercial laundries a regular feature of instruction in Laundry Methods.

Out of the fifty-four questionnaires distributed, forty-five, or eighty-five and one tenth per cent were returned, filled in. 89% were returned, but not filled in.

Twenty-two of the forty-five participants, not only took the time to return the questionnaires, but wrote supplementary comments.

New Jersey and California reported that they are unable to answer the questionnaire. These two states are therefore not included in the statistical tabulations which follow.

Forty of the forty-eight states are represented as well as the District of Columbia, Alaska, Honolulu, and the Philippine Islands. Two reports were received from New York, and Wyoming. In New York there were two state leaders, and in Wyoming Miss Bryson to whom the first questionnaire was sent referred us to Miss Lyle for the state report.

As the intelligence of the participants in the study was above the average we found that the questionnaires were all carefully answered, and we were not obliged to discard any of the returns.

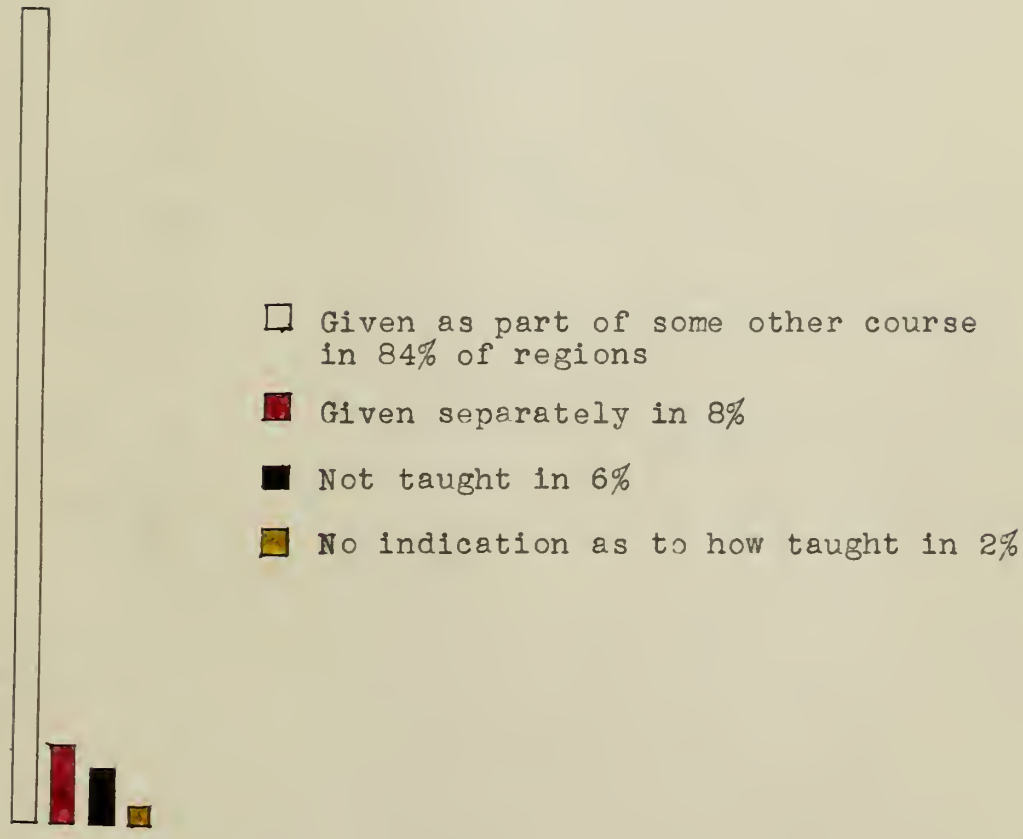
Laundry Methods

	Number
Given as part of some other course	42 states
Given separately	4 "
No indication as to how taught	1 "
Not taught	3 "

. . . . . .

	Percent
Given as part of some other course	84 states
Given separately	8 "
No indication as to how taught	2 "
Not taught	6 "

Chart Showing How Laundry Methods is Taught



Laundry Methods in 84% of the states and territories is taught incidentally, as a part of another course. In only 8% of the states and territories is laundry methods given separately. The 8% are listed as follows:

The Normal College in Honolulu

The Lucy Technical High School in Illinois

The vocational courses in Vermont

The eighth grade classes in Wisconsin

In addition to being taught as a separate unit, laundry methods is also taught as a part of some other course in these four regions.

In Alaska, Iowa, and Nebraska there is no attempt to teach laundry methods.

Massachusetts does teach laundry methods but the report does not state whether it is taught as a separate unit or as a part of some other course.

The field for introducing a course in which the future homemaker will be taught the methods, costs, and results of laundry washed clothing, and the economic and social benefits which will result from a centralized handling of a routine and laborious task is very wide.

The estimated time spent in teaching Laundry Methods is greater in the lower grades, and increases slightly, as can be seen by the accompanying chart, as the pupil enters a higher grade. If Laundry Methods is taught as a manual skill this arrangement of time is wise, the older child grasps the same amount of work in a shorter period,--but if the theory of Laundry Methods is studied, the time allotted to the work should increase rather than diminish with the advancing years.

In the Elementary grades the number of periods is somewhat overweighted. Washington, D. C. reports thirty-six ninety minute periods of manual-experiential work. This time is probably proportioned among various manual tasks, laundry methods receiving a share of the hours.

In the Junior High block, South Caroline does not state the number of periods a year, nor the length of the periods, but does report that Laundry Methods are taught two hours a week. In this same section of the Arizona report, the statement "cannot report" appeared.

In the Senior High School block, the state of Idaho offers two courses in which Laundry Methods is taught. In the homemaking course, it is taught for ten

90 minute periods, while in the related science course, it is only taught for ten 45 minute periods.

The following comments appeared in this section of the questionnaire:

Colorado--not able to estimate

Kentucky--no definite time as it is part of another course

Michigan--very little given in most schools. 4-6 periods of 90 minutes in Senior High

Utah--incidental instruction. Girls taught to launder renovated fabrics and table linens.

Washington--lessons in textile and clothing care are given in relation to the study of textiles and clothing. Very difficult to estimate time in periods and minutes.

Wisconsin--Differs in different schools.

Average Total Time Spent In Teaching Laundry Methods (Estimated)

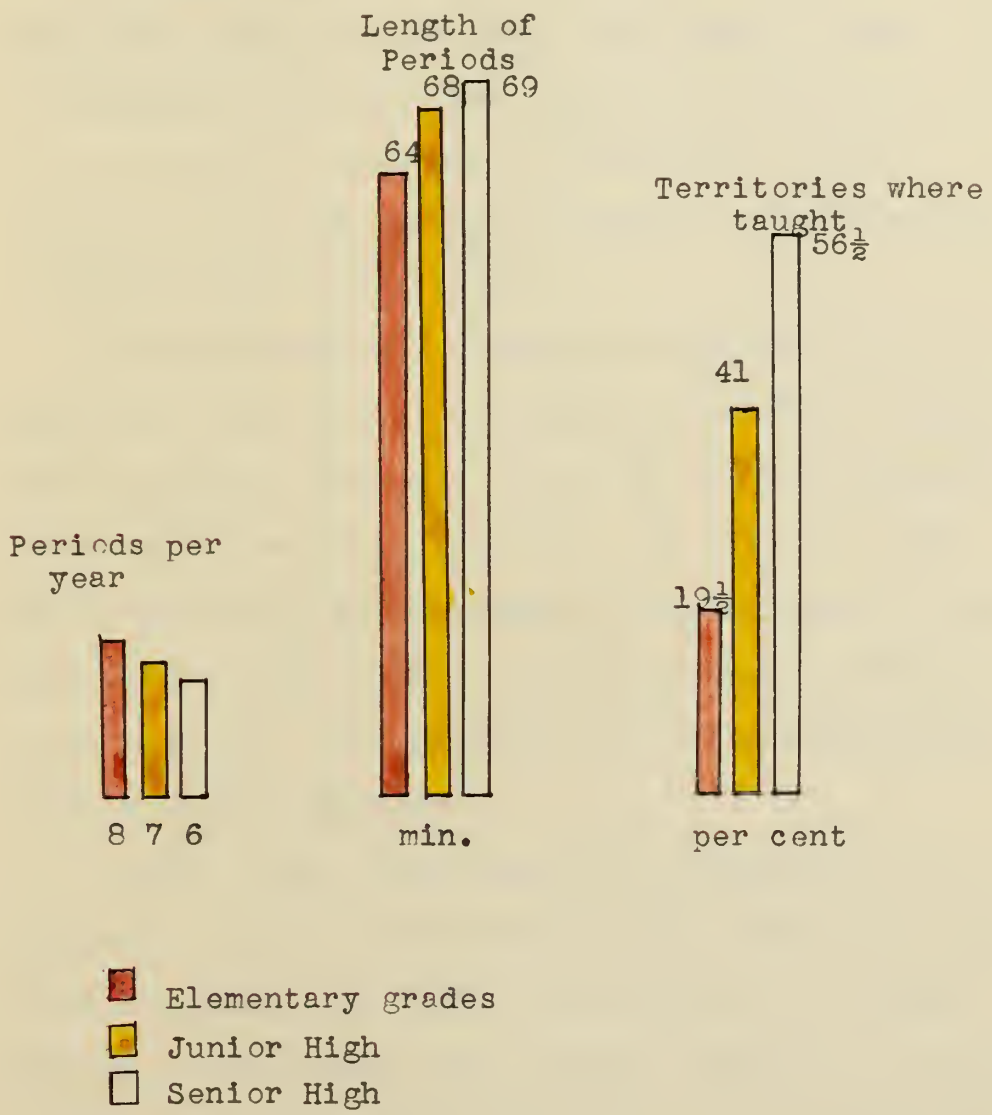
	Periods per year	Length of Per.
Elementary grades	8.1	64.4 min.
Junior High	7.6	68.1 "
Senior High	6.9	69 "

. . . . . .

Territories reporting Laundry Methods Taught

Elementary Grades 19½%	Junior High 41%	Senior High 56½%
Arkansas	Arkansas	Connecticut
Illinois	Florida	Delaware
Kansas	Georgia	Florida
New Mexico	Illinois	Idaho
New York	Indiana	Illinois
Rhode Island	Kansas	Indiana
District of Col.	Louisiana	Maine
Honolulu	New Hampshire	Massachusetts
Philippine Is.	New Mexico	Mississippi
	New York	Missouri
	Ohio	Montana
	Oklahoma	New Mexico
	Rhode Island	New York
	South Caro.	North Carolina
	Vermont	North Dakota
	W. Virginia	Ohio
	Wyoming	Oklahoma
	Dis. of Columbia	Oregon
	Honolulu	Pennsylvania
		Rhode Island
		Texas
		Vermont
		West Virginia
		Wyoming
		Honolulu

Average Total Time Spent In
Teaching Laundry Methods (Estimated)



In analyzing this part of the questionnaire we found that forty of the forty-six participants indicated whether or not Laundry Methods was an elective or required unit in the Home Economics course.

In some cases the work was elective in one year and required in another. In order to show by comparison the per cent of territories where it is elective or required, we have made three distinct divisions, allowing 100% for each division or 300% for the total group.

In the elementary grades we found that comparatively few school curriculums provide for instruction in Laundry Methods. 17.5% of the participants report any form of instruction. Of this per cent, 15% require that Laundry Methods be included in the work, while 2.5% offer some work in Laundry Methods as an elective. But 82.5% do not offer any instruction in Laundry Methods.

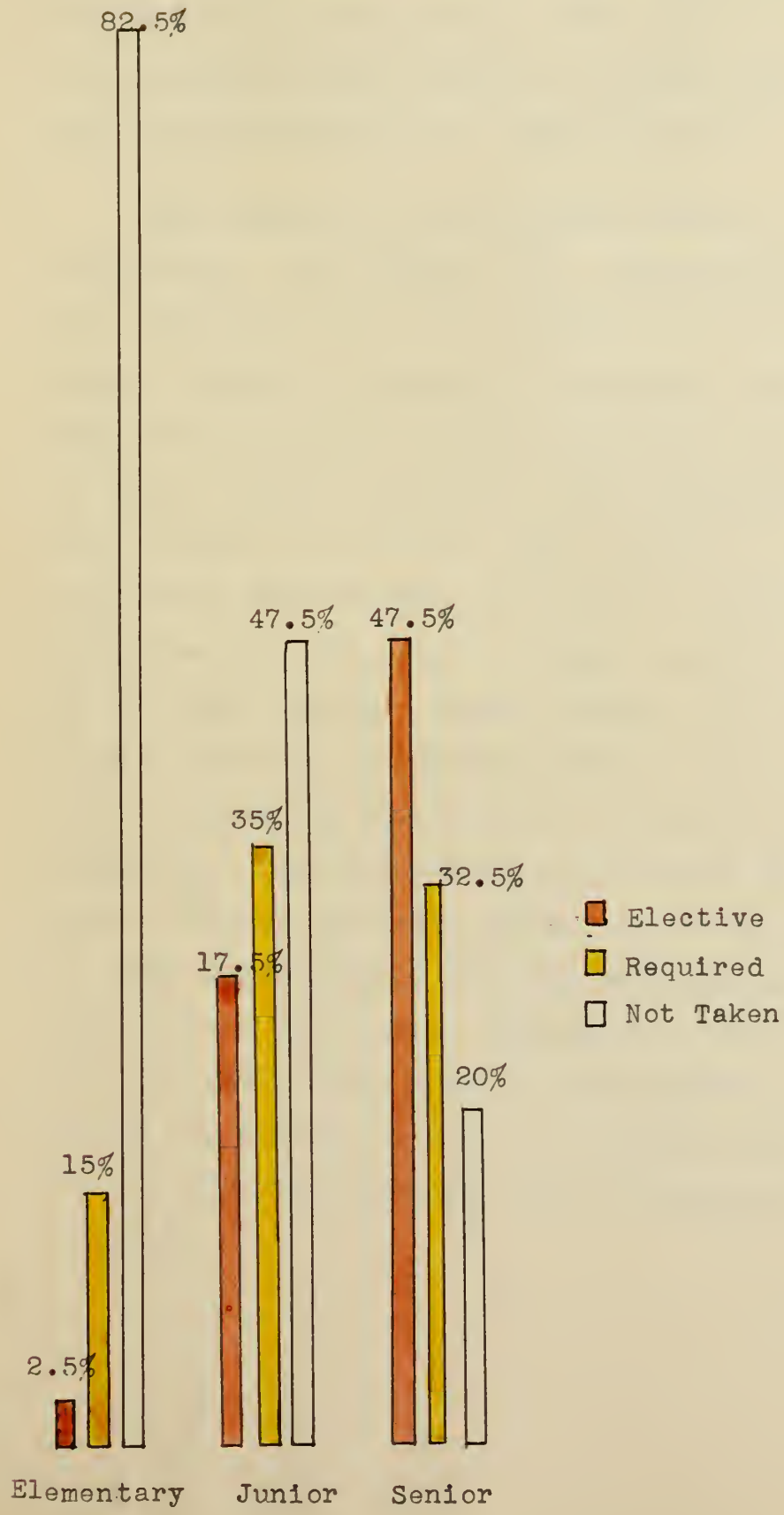
In the Junior High School the situation is improved. 52.5% or over half of the states and territories offer some form of instruction in Laundry Methods. 35% require that Laundry Methods be included in the curriculum and 17.5% offer it as an elective.

In the High School the per cent of states and

Laundry Methods
Required or Elective

	Elective No.	Required No.	Not Taken No.
Elementary	1	6	33
Junior High	7	14	19
High School	19	13	8
	%	%	%
Elementary	2.5	15.	82.5
Junior High	17.5	35.	47.5
High School	47.5	32.5	20.

Laundry Methods
Required or Elective



territories where Laundry Methods is a part of the curriculum is even greater. 80% offer it, 47.5% as an elective, and 32.5% as a required unit. Only 20% of the schools do not offer it at all.

The results of this analysis are not at all surprising. For centuries the laundry problem has been taken care of by the homemaker in the average home. Methods of caring for linens and laces, like many other household routines have been overlooked in public school education. The experienced housewife forgot the trial and error method of learning she passed through when she started housekeeping and allowed her daughter to learn laundry methods in the same fashion. Today, however, in a machine era we have not only to consider how the work must be done, but we must study how it can be handled to greatest advantage. Our children must understand the care of linens, woolens, silks, and laces if they are to judge intelligently the most satisfactory way of planning for their care. They must be able to balance the individual, social, and economic cost of caring for linens, et cetera, as against the collective, social, and economic cost of centralized performance.

Sex of Pupils Taking Laundry Methods

Girls	Girls and Boys	Not Indicated	Not Taught
No.	Number	Number	Number
40	1	2	3
%	Per Cent	Per Cent	Per Cent
88	2	4	6

Sex of Pupils Taking Laundry Methods

- 88% Girls Studying Laundry Methods
- 2% Girls and Boys studying Laundry Methods
- 4% Did not indicate sex studying
- 6% Do not teach Laundry Methods

Forty-three supervisors answered the question of the sex of pupils taking laundry methods. Forty of the forty-three wrote that Laundry Methods in the section under their control was given to girls only, so far as they knew. One supervisor in New-Mexico wrote that in addition to the girls, a few boys were enrolled. Iowa and Alaska report that Laundry Methods are not taught to any extent. Colorado, New Hampshire, and North Dakota did not answer this section of the questionnaire.

The absence of boys from the study of Laundry Methods is a misfortune. Men grasp easily the value of centralized performance. "Laundry production" is one of the industries in which the theory of diminishing cost operates. The larger the number of people who use the power laundries, the smaller the cost for each individual. If boys learned this well known economic fact in school, upon reaching manhood they would not see their wives waste energy at a task which can be performed better and cheaper outside the home.

Comparison Made In Class Work Of

Home and Commercial

Methods---Costs---Results

	No.	Per Cent
Schools where comparisons are made	30	65
Schools where " are not made	16	35

Comparison Made In Class Work Of
Home and Commercial
Methods--Costs--Results

☐ Number of schools where comparisons are not made

■ Number of schools where comparisons are made

The chart showing the number of schools where comparisons are made in class work of Home and Commercial Methods, Costs, and Results is deceiving. From this chart one would gather that the field was fairly well covered. This is not true. The time spent in teaching Laundry Methods is too short to permit a thorough study, and the number of pupils who study Laundry Methods, too few, to make such a statement possible.

The Texas supervisor is the only one who mentions using the Laundryowners National Association Manual as a reference.

In Wyoming some of the schools visit the public laundry in working out these problems, and require papers and discussions.

Other comments were as follows:

Michigan--Sometimes

Rhode Island--Depends upon individual teachers

Vermont--Just general comment

Oklahoma--No specific information

Idaho--Comparisons seem to be in favor of the home laundry

West Virginia--Only in towns having commercial laundries

Indiana--Visits to laundries for these points

Delaware--yes, although most of our schools are located in a very small town where there is no commercial laundry, colored help is cheap and available.

Economic and Social Relationship Of the Laundry Problem in Home Community

Economic

	No.
Laundry presented as a typical problem	14
Not presented as a typical problem	32

Social

Laundry presented as a typical problem	12
Not presented as a typical problem	34

. . . . . .

Economic

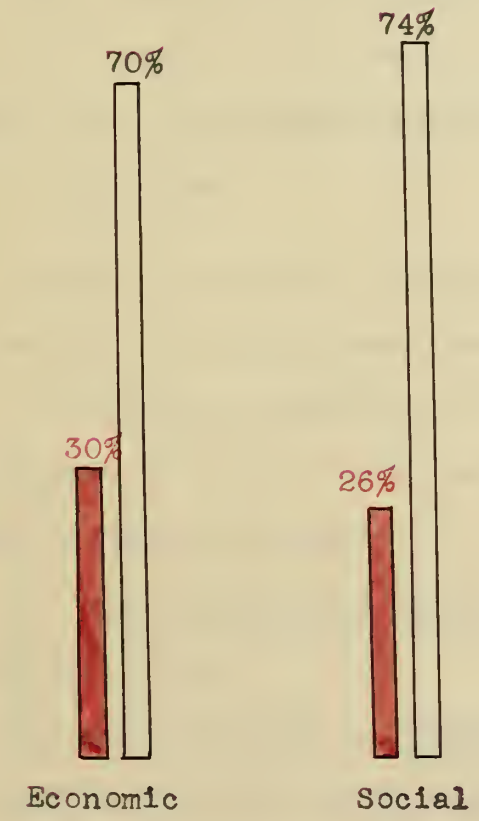
	Per cent
Laundry presented as a typical problem	30
Laundry not presented as a typical problem	70

Social

Laundry presented as a typical problem	26
Not presented as a typical problem	74

Economic and Social Relationship of

The Laundry Problem in Home and Community



Laundry presented as a typical problem

Not presented as a typical problem

This section of the questionnaire was included to find out the approximate number of territories where laundry is presented as a typical problem involving the relation of home and community on either the Economic or Social groups.

We found that only 14 of the supervisors, or 30% of all the participants consider it necessary to include the economics of the laundry problem, and 12, or 26% of the supervisors include the social aspect of the problem.

The laundry problem has a direct social and economic bearing on the present home and community relations. The responsibility as to how the problem will be adjusted lies in a large measure in the hands of the Home Economics teachers.

The following comments were included:

Arkansas--Probably not

Delaware--Not particularly

Wyoming--Not much (Economic)

Florida--General discussions usually

Georgia--These points would probably be stressed in courses in Home and Community Relationships in Vocational Schools

Illinois--Depends on school where work is given

New Mexico--Slight emphasis

New York--Social, in some cases

Texas--Not very clear as to meaning here--Emphasis is on care and upkeep of clothing

Utah--As a part of the household management course (Social)

Wisconsin--In home management unit in 10th grade

Territories where Studies Have Been Made of:

Number of school children assisting with laundry work at home.

Number who have made study	9
Number who have not made study	37
Per cent who have made study	19.5
Per cent who have not made study	80.5

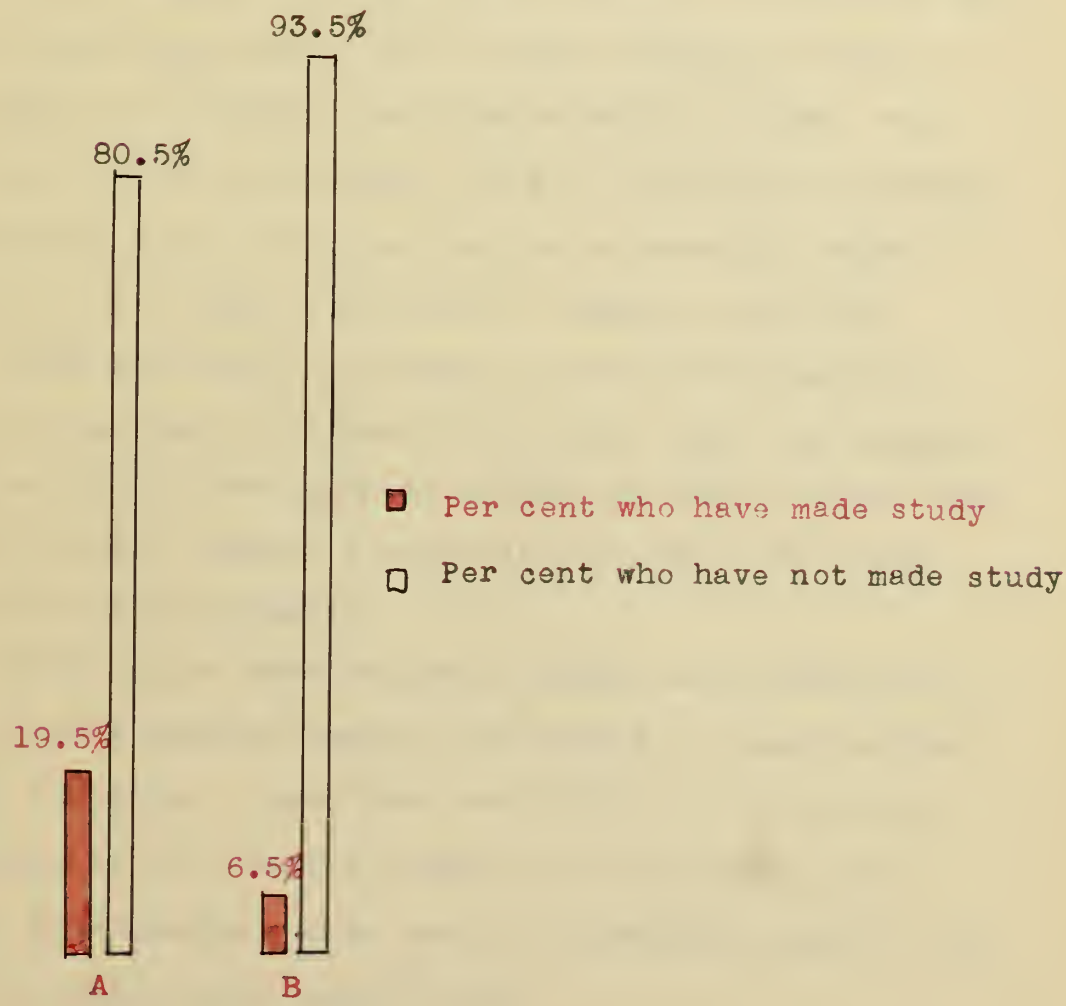
Percentage of homes in which laundry is no longer considered a domestic problem.

Number who have made study	3
Number who have not made study	43
Per cent who have made study	6.5
Per cent who have not made study	93.5

Territories Where Studies Have Been Made Of:

A. Number of school children assisting with laundry work at home

B. Per centage of homes in which laundry is no longer considered a domestic problem.



How Laundry Methods is taught depends to some extent on the home needs. If the work is cared for entirely in the home, and if the majority of the children assist in the work, a practical course is required. If the work is cared for outside the home, a more theoretical course is needed. In order to meet the needs of the community and state, a knowledge of these conditions is essential.

In our survey we found that 9 cases, or 19.5% of the participants had made a more or less adequate study of the number of children assisting with the laundry work at home; and in three cases, 6.5% of those participating, a study was made of the percentage of homes in which laundry is no longer considered a domestic problem.

80.5% have made no attempt, so far as we know, to find out how many children still assist with the laundry work, and 93.5% have made no attempt to find out how many homes consider laundry a domestic problem to be taken care of by the homemaker.

82.5% of the Home Economics pupils are required to take Laundry Methods during some period of their public school education. Less than one-fifth of the schools, according to the results found in our analysis, know either from adequate case study or community survey, the type of course their pupils need.

Fifty-four per cent of the participants report that some of their Home Economics classes make visits to commercial laundries a regular feature of instruction in Laundry Methods. Eleven per cent of the states report that some of their schools make visits to the commercial laundry, although the visits are not a regular feature, as it is not always possible to visit a laundry, or the laundry is not willing to have visitors, from schools.

It is evident that the Home Economics Supervisors are eager to cooperate with the laundry in giving pupils a chance to understand first-hand the centralized performance of laundry work. The laundry industry, has failed to do its part in meeting Home Econoics Supervisors at least half way. A special effort should be made by the leaders in the laundry industry in each community to cooperate with the Directors and teachers of Home Economics, as well as of Economics and Sociology courses under whatever title they are listed in the school curricula.

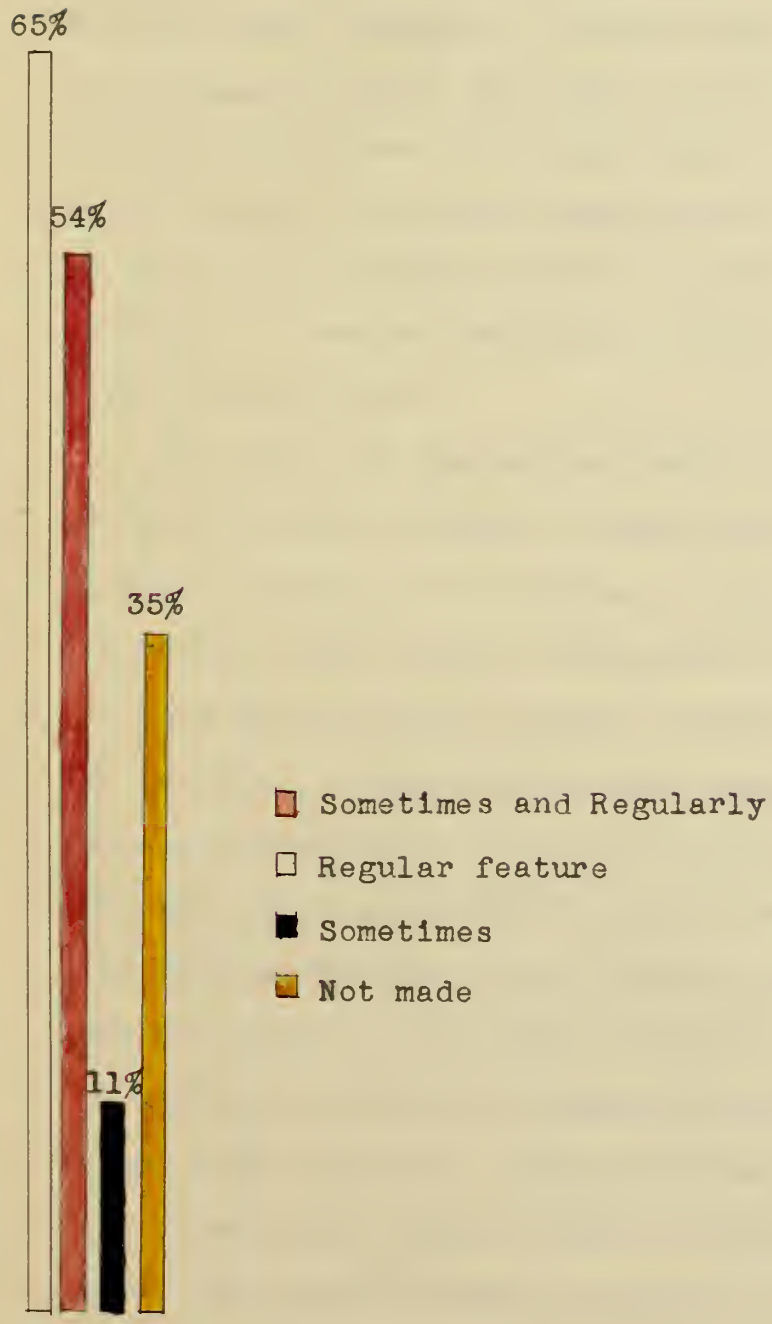
Visits to Commercial Laundries

	No.
Visits a regular feature, and an additional feature	30
.....	
Visits a regular feature	25
Visits an additional feature	5
.....	
No visits made in state	16

	%
Visits a regular feature, and an additional feature	65
.....	
Visits a regular feature	54
Visits an additional feature	11
.....	
No visits made in state	35

Visits to Commercial

Laundries



The analysis of this questionnaire has brought to light the need for more and better courses in Laundry Methods in Home Economics curricula. Few Home Economics teachers have stopped to consider how important a role cleanliness plays in the life of our civilization. But because cleanliness does play such an important role, the problems of reconditioning fabrics, the principles of sanitation involved in the reconditions, and the economics of centralized plants should be taught to both boys and girls.

The girls of the United States are well taken care of in our public schools. There are courses to fit them for business, and courses to help improve home standards. But boys are forgotten in our system. There are very few business training courses other than manual training, although boys enter many economic fields. The school can offer a Laundry Methods course which will introduce the field to boys as well as girls, and give them an insight to the industry that does much to keep the homes of our nation healthy.

Another conclusion reached through this study is the need for a more sympathetic and closer relationship between the Home Economics teacher and the laundry-owner. The Home Economics teacher is ready to cooperate with the laundryowner in an effort to give her pupils a background for understanding future laundry problems.

The laundryowner must meet the teacher more than half-way. He must not wait for her to come to him to ask for his cooperation, he must go to her, invite her to use his laundry as a laboratory for studying centralized methods, and do all in his power to make her feel his sympathy and appreciation of her efforts in presenting a Laundry Methods unit.

We have made no extensive study of how the laundry problem is handled in the colleges and domestic science schools of the country. The Mellon Institute of Industrial Research, maintains a laboratory for the scientific advancement of the laundry industry; Massachusetts' Institute of Technology places its laboratory at the disposal of the industry whenever a vexing technical problem arises; The Wharton School of the University of Pennsylvania maintains a department to train laundry executives; Ohio Mechanics Institute, Cincinnati, Ohio has a Power Laundry Cooperative Course to train young men to become foremen, superintendents, and assistant managers of power laundries; and Boston University has sponsored a Bureau of Consumer Research which for the past three years has studied the laundry, and its relation to the individual homemanager, the community, and the country.

The National Laundryowners Association maintains a "laundry college" which is described on page 111.

Through Government Agencies

Boards of Health

In a survey made by the Bureau of Consumer Research in 1927-28, covering each city in the United States with a population of 10,000 or more, 359 Health Officers report, that in so far as they know, there have been no cases of illness in their cities directly traceable to infection in a commercial laundry.

Three Health Officers, or .82% of the participants, report cases of illness traceable to infection in a commercial laundry.

One doctor, in California, reports that in 1922, two cases in a country hospital caused infection due to faulty disinfection. The laundry workers were infected, but no others.

A doctor in Rhode Island reports that two years ago there were two cases of typhoid fever in a laundry in his city. The well from which the laundry procured their water supply was sealed and no further cases appeared.

And another officer in Minnesota reports "very few cases of dermatosis."

If the report had covered a definite period, a period of two years, the findings would have been 100% perfect. There are no cases of illness directly tracea-

ble to infection in a commercial laundry, that have been reported for the last two years, by the participants.

Three hundred fifty-eight Health Officers report, that in so far as they know, there have been no cases of illness in their cities directly traceable to contagion in a commercial laundry.

The number reporting cases of illness due to contagion, is slightly increased over the number reporting illness due to infection. Five Health Officers, or 1.4% of the participants, report definite cases.

The Health Officer in one of Colorado's cities reports "one case of Smallpox in 1926 in a laundry."

A Health Officer in Indiana reports one case of scarlet fever.

A Minnesota Health Officer reports one case of scarlet fever. A driver of a laundry wagon collected laundry from a contagious case in a neighboring town.

In Iowa, a Health Officer reports Small Pox traced to a University Hospital Laundry from handling clothing from the Hospital.

A Health Officer in Illinois reports that in his city there were three cases of Small Pox in 1925

directly traceable to the public laundry.

A Health Officer in North Carolina reports that although they have had exposures there have been no cases.

In Wisconsin, another Health Officer reports that there have been no cases directly traceable to the public laundries in his city for twenty years.

This makes a total of seven cases reported over a period of twenty years from an area comprising forty-four states and the District of Columbia, in a total population of about four million.

80.28% of the Health Officers reported that in their opinion the laundry is as safe, or safer, than any other method, of laundering.

The small per cent of contagious and infectious cases reported is even more surprising when we realize the number of cities that have established a sanitary code for laundries.

22.04% have established ordinances, 6.63% have general rules, while 70.79% have no rules whatsoever.

The National Laundryowners Association is eager to have the Board of Health in each city and town provide and enfore health ordinances similar to the one listed on page 110, in order to maintain a uniform

The City of Erie

Pennsylvania

Laundries

Section I: No person or persons, firm or corporation shall conduct, maintain or operate any wash-house or laundry within the limites of the city of Erie, without first obtaining a permit from the office of the Board of Health. Said permit shall be revocable at any time upon failure to comply with the rules and regulations of the Board governing said subject.

Section II: No building used as a public laundry or wash-house shall be occupied or used as living quarters or sleeping apartments unless the same shall be on separate floors and apart from laundry or wash-house, nor shall floors designated and used for laundry purposes be used for any other than the business of a laundry or wash house, except where the said wash-house or laundry is located in a hotel or public lodging house, but wash-houses and laundries thus located, shall in all other respects be subject to the above provisions. The term public laundry or wash house, for the purposes of this regulation, shall apply to such place or places, other than a hotel or public lodging house where laundrying is done similtaneously for several persons or families.

Section III: No person afflicted with any contagious or infectious disease or skin disease, shall be employed or work in or about the premises of a public laundry or wash house, or in the handling or delivery of any clothing therein washed. Nor shall they knowingly receive or wash the clothes from any infected premises, water craft, railway coach, car or from any person afflicted with any contagious or infectious disease without the same having been first disinfected by the Board of Health.

Penalty.

high standard of laundry practice that is recognized throughout the country. The difficulty of enforcing the regulations will probably be nil as the reports from cities where regulations are already established is 100% compliance.

Department of Labor

Mrs. Ethel Best, of the Department of Labor, Washington, D. C. is at present studying labor conditions of the laundry industry in the United States. Her report is not complete yet, but will probably be available in three or four months.

Department of Commerce

Mr. Delagrave has been appointed to a position in the Department of Commerce to create a better understanding between the industry and the public.

Federal Extension Service

During this past year, Miss Daisy Deane Williamson, who is director of the Federal Extension Service, has cooperated with the Bureau of Consumer Research in working out and distributing to 159 rural families in New Hampshire, a questionnaire which was later tabulated in the Bureau. A copy of the tabulation is included as an example of how a University and a State can work together to gather statistics of the economic and social status of a given group.

In order to check the relative accuracy of this report, we compared our findings with the figures in the United States census, for 1920. The average of 4.37 corresponds very closely to the figure found in the United States Census of 4.34.

It is interesting to note that the male members of the family exceed the female members. This was true for the United States census also, in 1920. The adult male members of the family averaged 1.29 while the female members averaged 1.21.

Family

Total number of families represented.....159

	Total No.	Mean No.	Median No.	Mode No.
Men	272	1.72	1	2.1
Women	233	1.47	1	1.41
Children	191	1.20	1	.60
Total	696	4.37	4	3.26

Men			Women			Children		
Families	No.	Total	Families	No.	Total	Families	No.	Total
3	0	0	110	1	110	74	0	0
104	1	104	36	2	72	31	1	31
32	2	64	6	3	18	29	2	58
15	3	45	5	4	20	9	3	27
3	4	12	1	6	6	8	4	32
1	5	5	1	7	7	5	5	25
1	42	42	159		233	3	6	18
159		272				159		191

United States

Census Findings

	Total No.	Mean No.
Men	31,403,370	1.29
Women	29,483,150	1.21
Children	44,824,100	1.84
Total	105,710,620	4.34

In this section of the survey, 155 out of the 159 families indicated the time used in washing and ironing during the week.

The average time we found to be 4.22 hours; the median, 4; and the mode, 3.56. The greatest amount of time spent on the work was 18 hours, and the minimum, 0.

Hours Used in Doing the Week's Washing And Ironing

Hours	Number	Total Hours
0.0	10	0.0
0.5	1	0.5
1.0	2	2.0
1.5	3	4.5
2.0	8	16.5
2.25	1	2.25
2.5	3	7.50
2.75	2	5.50
3.0	23	69.0
3.5	12	40.0
4.0	22	88.0
4.5	10	45.0
5.0	22	110.0
5.25	1	5.25
5.5	1	5.5
6.0	18	108.0
6.5	1	6.5
7.0	5	35.0
8.0	6	48.0
9.0	2	18.0
12.0	1	12.0
18.0	1	18.0
Total	155	646.50

One hundred forty-five of the families own tools for washing clothes. The percent of ownership is first based on the number owning tools, and then in the summary on the total group, 159 families. Some of the families own two or more kinds of tools, as for example the electric washing machine and the wash-tub. Fourteen or 8.8% do not own any tools for washing clothes, but depend on outside agencies.

The tabulation for tools used in ironing is handled in the same way. The first analysis is based on the 156 families who own tools, the summary is based on the entire group, 159 families. Some of the families own two or more kinds of tools for ironing, too. Three families, for example or 1.2% do not own an iron and depend on outside agencies for this work.

Tools Used in Washing

Type	Number	Per Cent
Electric Washing Machine	41	28.2
Elec. Wash. Mach., Tubs, and Wash Board	5	3.4
Elec. Wash. Machine and Wash Board	1	.7
Gasolene Machine	3	2.0
Water-Power Machine, and wash Board	1	.7
Hand Power	6	4.1
Hand Power, Tubs and Wash Board	5	3.4
Tubs and Wash Board	80	55.1
Tubs and Plunger	1	.7
Tubs and No Wash Board	2	1.4

Summary

Tubs	93	58.5
Wash Board	92	57.8
Elec. Washing Machine	47	29.5
Outside Agency	14	8.8
Hand Power	11	6.9
Gasolene Machine	3	1.9
Water Power	1	.6
Plunger	1	.6

Tools Used in Ironing

Type	Number	Per Cent
Electric iron	84	53.8
Electric iron and Sad iron	3	1.9
Gas iron	0	0.0
Gas iron and sad iron	8	5.1
Sad iron	60	44.8
Sad iron and combination	11	7.0
Electric mangle	1	.7

Summary

Electric irons	87	54.7
Sad irons	71	44.6
Gas irons	8	5.0
Outside agency	3	1.2
Mangle	1	.6

Ten per cent of the families employ help to come into their homes to do their washing for them, regularly.

About two per cent employ help in the summer, and about 2 per cent irregularly.

Homemakers Who Hire Help With

Washing and Ironing

Washing	Number	Per cent
Yes	18	11.3
No	134	84.3
Sometimes	4	2.5
In the summer	3	1.9

Ironing	Number	Per cent
Yes	15	9.5
No	140	88.0
Sometimes	3	1.9
In the summer	1	.6

Average Cost Per Week for Such Help

The average price each homemaker pays to have someone come in to help her with her washing and ironing is $1.39. The median is $1.25, and the mode, $1.25.

Number	Price	Total
3	$0.50	$1.50
1	.70	.70
1	.75	.75
5	1.00	5.00
1	1.05	1.05
4	1.25	6.00
1	1.35	1.35
2	1.50	3.00
1	1.70	1.70
1	1.80	1.80
4	2.00	8.00
1	2.50	2.50
1	4.00	4.00
26		$36.35

Sixty-four and seven tenths per cent of the families in this survey use starch to some extent, either regularly, or occasionally.

Twenty-nine per cent never use it, and 6.3% did not answer this section of the questionnaire.

Do You Use Starch?

	Number	Per cent
Yes	82	51.6
No	46	29.0
Sometimes	10	6.3
Very little	9	5.6
Flour	1	.6
Not answered	10	6.3
Total	159	100.0

Amount of Soap Used

It is difficult to estimate the amount of soap, soap powder, and flakes used. The amounts were estimated in different ways. For example one homemaker recorded one bar of soap, one-half cup of soap powder, and one-half package of soap flakes. We had no way of knowing the size of the cake of soap, the cup, or the package. All we could do was to consider the average size, the one used.

In order to find an average for each detergent we had to change the quantity to a like measure. We used the tablespoon as the unit in flakes, and soap powder, and a cake $4\frac{1}{2}$" x $1\frac{1}{2}$" x $2\frac{3}{4}$" as the unit for soap.

	Number	Per cent
Families using soap, only	60	37.73
Families using flakes, only	29	18.24
Families using soap powder, only	9	5.67
Families using a combination	46	28.93
Families not reporting	15	9.43

Number Bars Soap Used

Bars	Number	Total
1/4	7	1.75
1/3	2	.66
1/2	19	9.50
3/4	4	3.00
1	54	54.00
1 1/2	4	6.00
2	7	14.00
3	4	12.00
	101	100.91

Average .999 Bar to each family
Median 1 Bar to each family
Mode 1 Bar " " "

Amount of Flakes Used

Table.	Number	Total
2	1	2
3	1	3
6	1	6
9	1	9
12	2	24
18	7	126
24	7	168
36	8	288
48	1	48
72	3	216
108	2	216
	34	1106

Average 32.53 tablespoons
Median 24.00 "
Mode 24.00 "

Amount of Soap Powder Used

Table.	Number	Total
1	1	1
2	1	2
6	2	12
7	2	14
10	1	10
14	4	56
21	2	42
28	5	140
37	2	74
56	5	280
	25	631

Average 25 tablespoons
Median 37 "
Mode 28 "

Only 19 families, or 12% of the 159 families in the survey, indicated the time the fire was kept going for washing and ironing purposes.

Time--Hours	Number	Total Time
.25	2	.50
.33	1	.33
.50	1	.50
1.00	1	1.00
1.50	1	1.50
2.00	2	4.00
3.50	3	10.50
4.00	1	4.00
6.00	2	12.00
7.00	1	7.00
7.33	1	7.33
8.50	1	8.50
9.00	2	18.00
	19	75.16

The average time the fire is kept going for washing and ironing is 3.95 hours.

The median time, 3.5 hours.

The mode, 2.6 hours.

Do You Use Coal or Wood

In this section of the questionnaire we only asked if the homemaker used coal or wood. Seven families did not fill in the question, and we have taken it for granted that they do not use either coal or wood. Three of the seven families do no laundry work, and four of the families do no washing.

Kind	Number	Per cent
Wood	99	62.3
Coal	20	12.6
Coal and wood	16	10.0
Neither coal nor wood	7	4.4
Combination*	6	3.8
Oil	3	1.9
Electricity	3	1.9
Gas	2	1.3
Electricity and wood	1	0.6
Gas and wood	1	0.6
Oil and wood	1	0.6
	159	100.0

*In the winter 1 family used coal and wood
1 " uses wood
1 " sends the laundry out
3 families use coal

*In the summer 2 families use oil
2 families use wood
1 family uses gas
1 family uses electricity

Average Cost of Work Done

Commercial Laundry

Cost to individual family	Number of families	Total Cost
$0.40	1	$0.40
0.50	4	2.00
1.00	6	6.00
1.50	2	3.00
1.75	1	1.75
2.50	1	2.50
7.50	1	7.50
	16	$23.15

17 of the 159 families indicated that they sent their work to the public laundry, but one family did not report the average price paid, so our analysis of this section is based on 16 families.

The mean cost equals $1.44
The Median cost " 1.00
The Modal cost " 1.00

* * * * * * * * * * * * *

Sent to Private Home

Cost to individual family	Number of families	Total Cost
$0.35	1	$0.35
0.50	1	0.50
0.75	2	1.50
1.00	3	3.00
1.10	1	1.10
1.25	1	1.25
1.35	1	1.35
1.50	2	3.00
1.70	1	1.70
1.75	1	1.75
2.00	1	2.00
2.50	1	2.50
2.75	1	2.75
3.00	1	3.00
	18	$25.75

23 of the 159 families indicated that they send their work to a private home, but only 18 reported the average price the work costs each week.

Mean cost equals $1.43 Median, $1.30 Mode, $1.25

Outside Handling of Laundry

Work Sent to Commercial Laundry	Number	Percent
All done by laundry		
Time indicated by 1		
Time not " by 2		
Total	3	1.9
Laundry and Help		
Time indicated by 5		
Time not " by 2		
Total	7	4.4
Laundry and Homemaker	9	5.6
Total Commercial Laundry Users	19	11.9

. . . . . .

Work Sent to Private Laundry		
All sent out		
Time indicated by 6		
Time not " by 2		
Total	8	5.0
Part out, and part in home with help		
Time indicated by 9		
Time not " by 1		
Total	10	6.3
Part out, and part in home by homemaker	7	4.4
Total Private Laundry Users	25	15.7

. . . . . .

Work done by Outside Agency		
Type of agency not indicated	1	0.7
Total Number Using Some Outside Agency	45	28.3

Summary of Laundry Methods

		Number	Percent
Work done entirely by homemaker			
Time indicated by 106			
Time not " by 3			
Total		109	68.55
Work done entirely out of the home			
Time indicated by 7			
Time not " by 4			
Total		11	6.91
Work done by combinations			
Homemaker and Outside agency	16		
Work done by help in home	10		
Some by help in home and some by outside agency	9		
Some by help in home, washing sent out	4		
Total		39	24.53
Total Families Studied		159	99.99

	No "Help"				"Help"							
	W & I		W & I, Out		W & I		W & I, Out		W & Out		Total	
Hours	No.	Total	No.	Total	No.	Total	No.	Total	No.	Total	No.	Total
.5							1	.5			1	0.5
1.0							1	1.0	1	1.0	2	2.0
1.5	2	3.0	1	1.5							3	4.5
2.0	2	4.0	6	12.0							8	16.0
2.25	1	2.25									1	2.25
2.5	2	5.0			1	2.5					3	7.5
2.75	2	5.5									2	5.5
3.0	17	51.0	3	9.0	3	9.0					23	69.0
3.5	10	35.0			1	3.5			1	3.50	12	41.0
4.0	17	68.0	3	12.0			2	8.0			22	88.0
4.5	8	36.0	1	4.5	1	4.5					10	45.0
5.0	19	95.0	1	5.0	2	10.0					22	110.0
5.25	1	5.25									1	5.25
5.5	1	5.5									1	5.5
6.0	12	72.0	1	6.0	1	6.0	4	24.0			18	108.0
6.5									1	6.5	1	6.5
7.0	4	28.0							1	7.0	5	35.0
8.0	6	48.0									6	48.0
9.0	2	18.0									2	18.0
12.0					1	12.0					1	12.0
18.0							1	18.0			1	18.0
Total	106	488.0	16	50.0	10	47.5	9	51.5	4	18.0	145	647.5
Average hours for each family		4.63		3.12		4.75		5.72		4.50		4.46
Average hours per person		1.42		.95		1.45		1.75		1.34		1.33

W & I stands for washing and ironing. "out" means that the laundry work was done in an outside agency, either a public laundry or a private one.

Summary

106 families do all of their own work. These families spend 4.63 hours a week washing and ironing, or an average of 1.42 hours per person.

16 families send some of their work out, and do some of it at home. They spend 3.12 hours a week washing and ironing, or .95 of an hour per person.

10 families have some one come in and do allof their work. 4.75 hours are spent in the home for the family washing and ironing, or 1.45 hours per person.

9 families employ some one to come in and help with the laundry work, and send some of the work out to a public or private laundry. 5.72 hours are spent in the home, or 1.75 hours per person.

4 families send their washing, or part of it out, and employ someone to come into the home to iron. 4.5 hours per week are spent on the home work, or 1.34 hours per person.

The average time spent in the home on laundry work, for the 145 families analyzed in this section of the survey was 4.46 hours. This means that the average time spent per person is about 1.33 hours.

Average Weekly Wash Includes

Articles	Average	Median	Mode
Sheets	3.82	3	4
Pillow cases	5.46	5	6
Towels	12.00	10	12
Dishcloths	3.63	4	4
Table cloths	1.20	2	2
Napkins	6.34	6	6
Dresses	4.21	3	4
Pieces of underwear	11.78	8	12
Aprons	4.07	4	4
Shirts and Waists	4.43	4	4
Trousers and overalls	1.39	2	2
Skirts and slips	2.51	2	2
Handkerchiefs	19.26	18	24
Hosiery	11.43	10	12

One hundred fifty-eight homemakers filled in this section of the questionnaire, and the average median, and mode are worked out on the basis of 158 families, not 159.

We neglected to include hosiery in the suggested list we sent out, and found that only 23 homemakers included it. In figuring the average, median, and mode for hosiery, therefore, we based our work on the 23 cases reported, and not on 158 families.

Sheets

Number	Persons	Total
1	11	11
2	37	74
3	33	99
4	44	176
5	11	55
6	13	78
7	2	14
8	2	16
9	0	0
10	2	20
11	0	0
12	1	12
50	1	50
	157	605

Pillow Cases

Number	Persons	Total
1	1	1
2	27	54
3	10	30
4	35	140
5	16	80
6	28	168
7	6	42
8	20	160
9	0	0
10	9	90
11	0	0
12	4	48
50	1	50
	157	863

Towels

Number	Persons	Total
1	0	0
2	3	6
3	1	3
4	6	24
5	4	20
6	24	144
7	4	28
8	18	144
9	2	18
10	11	110
11	0	0
12	40	480
13	2	26
14	2	28
15	12	180
16	1	16
17	0	0
18	7	126
19	0	0
20	7	140
24	6	144
25	2	50
30	2	60
50	1	50
100	1	100
	156	1897

Tablecloths

Number	Persons	Total
1	48	48
2	48	96
3	5	15
4	3	12
20	1	20
	106	191

Dish Cloths

Number	Persons	Total
1	10	10
2	16	32
3	21	63
4	29	116
5	2	10
6	23	138
7	3	21
8	6	48
12	4	48
14	2	28
16	1	16
21	1	21
24	1	24
	119	575

Napkins

Number	Persons	Total
1	1	1
2	11	22
3	12	36
4	22	88
5	7	35
6	37	222
7	2	14
8	7	56
10	2	20
12	14	168
18	1	18
24	3	72
250	1	250
	120	1002

Dresses

Number	Persons	Total
1	21	21
2	38	76
3	21	63
4	21	84
5	12	60
6	14	84
7	2	14
8	6	48
9	1	9
10	3	30
12	2	24
15	2	30
16	1	16
18	1	18
20	2	40
24	1	24
25	1	25
	149	666

Aprons

Number	Persons	Total
1	4	4
2	26	52
3	28	84
4	42	168
5	11	55
6	18	108
7	5	35
8	2	16
10	3	30
12	3	36
16	1	16
20	2	40
	145	644

Pieces of Underwear

Number	Persons	Total
2	3	6
3	2	6
4	10	40
5	11	55
6	24	144
7	6	42
8	21	168
9	2	18
10	10	100
11	3	33
12	23	276
14	1	14
15	6	90
18	3	54
19	1	19
20	5	100
21	3	63
22	1	22
24	4	96
25	1	25
27	1	27
36	3	108
40	2	80
42	1	42
44	2	88
50	1	50
56	1	56
	141	1862

Shirts and Waists

Number	Persons	Total
1	6	6
2	36	72
3	21	63
4	25	100
5	9	45
6	16	96
7	3	21
8	11	88
9	4	36
10	6	60
12	5	60
16	1	16
18	1	18
19	1	19
	145	700

Trousers and Overalls

Number	Persons	Total
1	30	30
2	30	60
3	8	24
4	4	16
5	2	10
6	11	66
7	1	7
8	1	8
	87	221

Skirts and Slips

Number	Persons	Total
1	38	38
2	51	102
3	32	96
4	17	68
5	3	15
6	5	30
12	3	36
14	1	14
	149	397

Handkerchiefs

Number	Persons	Total
4	1	4
6	10	60
8	6	48
9	1	9
10	7	70
11	1	11
12	37	444
13	1	13
14	5	70
15	6	90
16	1	16
18	12	216
20	7	140
24	22	528
25	5	125
28	1	28
30	10	300
36	8	288
40	3	120
42	1	42
50	3	150
60	1	60
64	1	64
72	1	72
75	1	75
	152	3043

Hosiery

Number	Persons	Total
4	3	12
5	1	5
6	1	6
8	2	16
9	1	9
10	4	40
12	5	60
15	3	45
21	1	21
24	1	24
25	1	25
	23	263

The need of an educational program on the social and economic aspects of laundry practice is quite evident from the New Hampshire survey. 84.3% of the rural families are still doing their own laundry work, 58.5% using the old fashioned wash tub, and 44.6% using sad irons.

29.5% of the women doing their own work own an individual electric washing machine which they use for an hour or two each week, letting it stand idle the rest of the week, and 10% employ someone to help them with their work.

As the laundry industry works on the basis of decreasing costs, the 39.5% of the New Hampshire families who either own a washing machine or employ someone to come in and help them with the weekly washing are keeping the power laundry cost from within reach of the other families (44.8%)

This study shows, therefore, that the average home manager needs to learn:

1. The individual cost of laundry work using
    a. Hand tools with and without help
    b. Electric appliances
2. The social cost
    a. Comparing individual and centralized performance.

The average home manager in New Hampshire can still understand the 18th century attitude pictured in A Book

Of Remembrance by Mrs. Elizabeth Duane Gillespie.

"What lot can be more dreary than to come into the world on a "wash-day?" On the 15th day of January, 1821, a thin baby girl with a long nose, the 7th child of her parents, was born, and that thin baby was myself. My nurse (Betsy Briggs) always told me I was cross because of my wash-day experience, and because the whole family was on that day "put out" by my inopportune event."

Present Industrial Consciousness and Status

Laundryowners National Association

On October 1, 1883 a group of about one hundred laundryowners met at the Hotel Florence, Pullman, Illinois and organized a National Laundryman's Association. Mr. E. D. Ellis of Chicago was elected the first president and he presided at the first annual convention held in Philadelphia, Pennsylvania, October 13, 14, and 15, 1884.

During the first twenty-eight years this Association did not do a great deal of constructive work, but existed more as a fraternal organization. An advisory board made up of the president and secretary of each state association guided the activities of the National Association, and the entire group met once a year to exchange experiences and become better acquainted.

In 1910, the organization elected by popular vote, as representative on the advisory board, a competent and enthusiastic laundryowner, Mr. William E. Fitch.

During his first year of service Mr. Fitch received many textile and laundering inquiries, and he began to realize that the other members of the Association were puzzled by the same questions which were bothering him. Before long he came to the decision that the whole industry needed educational information based on more than exchanged experiences. He suggested a program for scientific research, This was a comparatively new idea, but although Mr. Fitch may have felt some inner

qualms, he nevertheless went ahead with his program which included a Service Bureau consisting of five departments. In 1914 he presented his plans for a Service Bureau at the meeting of the Laundryowners National Association held at Niagra Falls, New York.

His plan included a department of research, of cost accounting, of engineering, of human relationships, and of publicity. The plan was accepted and adopted.

The Allegheny County Laundrymen's Exchange had already established a Research Fellowship on a very small scale at the Mellon Institute which they were glad to relinguish to the parent organization, and this, therefore, was the first department established.

The purpose of the Research Fellowship established at the Mellon Institute of Industrial Research, University of Pittsburgh was:

1. To discover the effect of certain supplies on goods.

2. To measure the quality of the work produced through the use of these supplies.

3. To determine the cost of production through the use of the supplies.

The second department established by the Service Bureau was the Department of Cost Accounting. This was established:

1. To evolve an accurate cost accounting system that would enable the laundryowner to know his costs in

detail as well as in the total.

2. To establish the privilege of comparing detailed costs with other laundryowners.

The third department established was the Department of Engineering. Its purpose was and is:

1. To place at the laundryowner's command the latest ideas as to:

a. The proper type of building for his needs

b. The newest and best kinds of equipment

c. Methods of arranging both building and equipment for an even flow of work through the laundry so that the greatest volume of production can be obtained with least expenditure of time and energy.

The fourth department was the Department of Human Relationships. Its purpose was to:

1. Establish better relations between employers and employees

2. To establish better relations between employees with each other

The fifth department was that of Publicity. The object of this department was and is:

1. To give publicity to the members and the

industry in general of what is being done to improve all departments of laundering and its service

2. To educate the public to what constitutes modern laundry service.

With such a program as a working basis it is not surprising that the Laundryowners National Association has rapidly increased in prestige and power. At the present time there are 5,537 laundries in North America, 44%, or 2426 being Laundryowners National Association members.

The next idea Mr. Fitch and his associates conceived was the American Institute of Laundering, Incorporated. This was organized and incorporated in 1922 at Joliet, Illinois and is a half million dollar corporation to be used as a "proving and improving station" for the laundry industry.

The purpose of the Institute is:

1. To discover unrealized hindrances and how to overcome them.

2. To develop unknown possibilities in the practical operation of laundry equipment.

3. To test discoveries of the various departments of research and engineering investigation by checking every process and method from the standpoint of results achieved. It is planned, when the building program is completed, to establish all of the offices of the National

CODE of ETHICS

THE PRINCIPLES THAT GOVERN MEMBERSHIP IN

The Laundryowners National Association of the United States and Canada

1. I reaffirm my allegiance to my Country and its Constitution, and I believe in its everlasting endurance through law and order.

2. I believe in the Laundry Industry its future, and its obligation to the American Home.

3. I beileve that these three have their distinct rights in our Industry: First, the Public; second, the Employee; and third, the Employer, and that the rights of each must be protected by the other two.

4. **To the Public:** I respect the confidence placed in me by entrusting to my care property which it is my duty to treat with due regard for its preservation, hygiene and sanitation, as developed by the research work of our Service Bureau, and to return this property to its rightful owner. If I fail in any of these, it is then my duty to the Public, to my fellow craftsman and to this, my Association, to make just restitution.

5. **To My Employees:** I demand for them the same respectful treatment from my Supervisors that they may justly expect from me and I dedicate myself to the task of so conducting my business that they shall receive fair return for their labor and be enabled to enjoy healthful surroundings both physical and moral.

I also acknowledge my duty to consider their individual abilities, that he or she may be placed to advantage and justly promoted when possible. I believe that man's right to work without reference to his membership or non-membership in any organization is as sacred as his right to religious worship and should be equally free.

6. **As Employer:** I believe a fair reward is due me if I meet these obligations to the Public and the Employee, and that my compensation from the public should be based upon accurately determined costs.

7. I believe the dignity and character of the Industry can be sustained and improved through our parent organization, **The Laundryowners National Association of the United States and Canada,** to which I pledge my support; and I further agree so to administer my affairs as to reflect credit upon my Association and my Industry.

OUR MEMBERSHIP CERTIFICATE

A long time ago, before the Norsemen sailed west and found a new continent without telling anybody about it--before Columbus discovered the same continent and advertised it so that it stayed discovered--away back when the Indians were the first Americans, but did not answer to either name--there grew on our western plains a plant which these first Americans greatly respected.

Their medicine men had passed on to them from time immemorial the precious knowledge that the roots of this plant, dried and powdered and soaked in water, made a solution that would wash away from their blankets and the few garments they wore, the stains of food, of toil, of battle and of the chase.

So Nature provided the first great American washing powder--the Soap Plant--which is the unromantic modern name of this historic household utility. And our artist has taken its leaves and flowers as the motif for the border of our beautiful Membership Certificate--as the ancient and purely American symbol for modern cleansing compounds in laundering.

In like manner the elements essential to our Industry have been symbolized by the four medallions--the dove typifies the air, required by our drying processes, and plenty of it for the health of our workers; the sun typifies heat, which we need for power, for heating, for drying, and for the beautifying process of ironing.

The tree symbolizes the earth, on which we build, and which supplies us with building material and with the metals from which we make our machinery and equipment. The ship symbolizes water, which cleanses the clothes after some of it has first been turned into steam for power.

As for the colors, yellow stands for cheerfulness. And blue--you know that in our Industry it takes a dash of blue to keep the linens white--likewise it takes a dash of "true blue" in a man to keep him "white"--so blue stands for sinceity and truth.

Thus the medallions typify the elements of Nature which are essential to our business, and the colors symbolize the elements of good business, which are further expressed, as regards our business, by our Code of Ethics, for which our Certificate Committee has provided so fitting and so beautiful a setting.

Each one of us will be the happier and the more efficient for the reminder of all these things, as he looks at his Membership Certificate day by day. Assuredly it is well worth framing by each member, and hanging prominently in the memory and on the office wall.

LAUNDRYOWNERS NATIONAL ASSOCIATION
OF THE UNITED STATES AND CANADA.

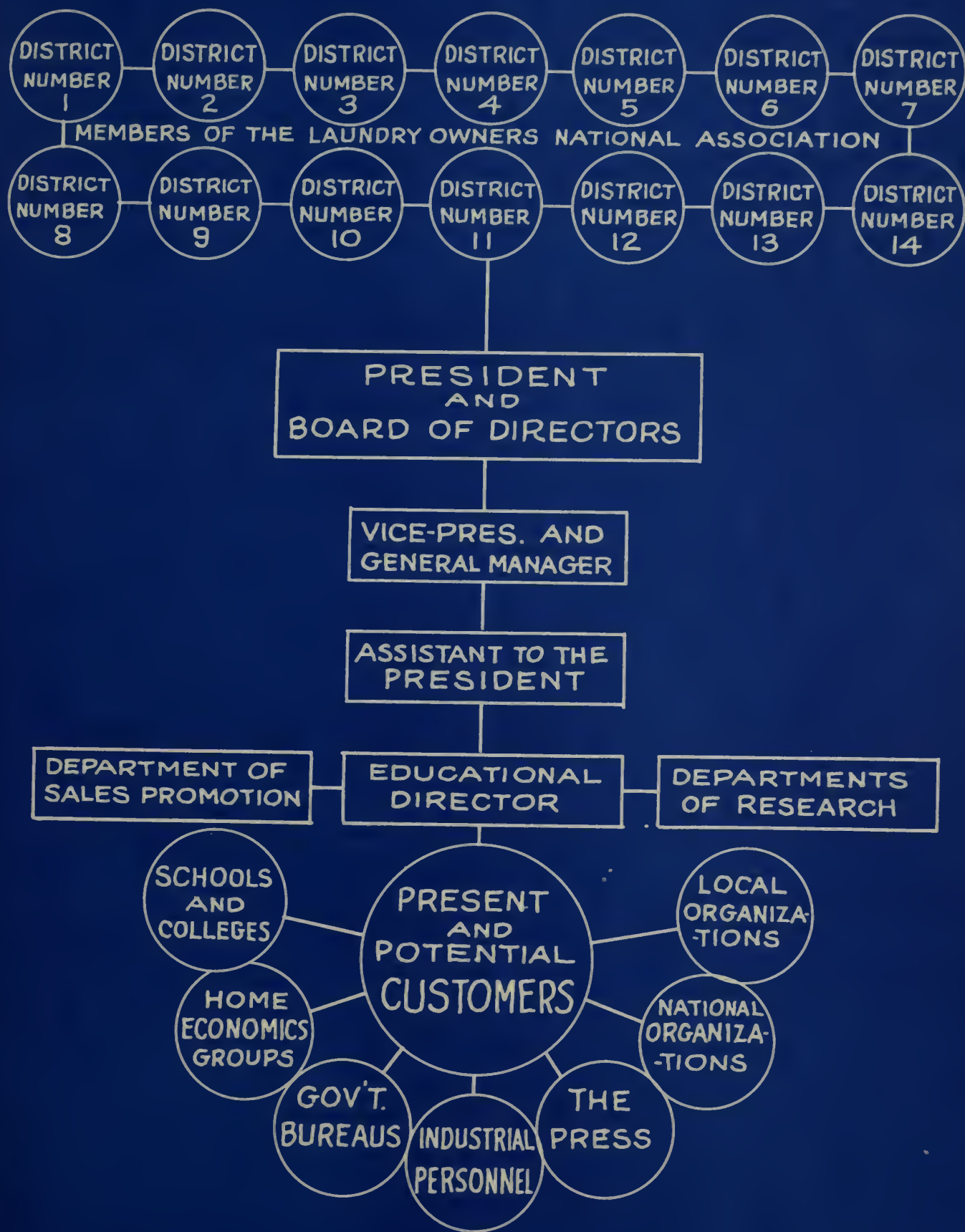
Association at the Institute, including the offices of the American Institute of Laundering, the Chemical and Mechanical Research Departments, the Service Departments and the Commercial laundry unit.

Dr. A. F. Shupp, the present chemical engineer is the Resident Manager of the American Institute Laundry. He has already discovered that there is a great deal of difference between doing an experiment in a chemical laboratory and doing a job in a commercially operated plant.

C. Clair Stone, St. Paul, Minnesota is President; Arthur T. Downer, Winchester is Vice-president; William E. Fitch, La Salle is Secretary-Treasurer; and the Directors are Otto M. Rice, Chicago; A. O. Long, Kansas City, Missouri; Frank B. Fletcher, El Paso, Texas; and Fred MacKenzie, Washington, D. C.

A National Council made up of a representive from each state, the District of Columbia, and Canada act in an advisory capacity to the Board of Directors on matters pertaining to the financing, building, and equipping of the Institute. It has also a Board of Finance, Building and Equipment, Research, Student Training, Publicity, and Commercial Plant Operation.

The Association has discontinued the Human Relation Service Bureau and adopted the Department of Sales Promotion. This is under the direction of a home manager, Mrs. Elsie Robsin, (L. C. Ball.) This department has


DISTRICT NUMBER 1
DISTRICT NUMBER 2
DISTRICT NUMBER 3
DISTRICT NUMBER 4
DISTRICT NUMBER 5
DISTRICT NUMBER 6
DISTRICT NUMBER 7
MEMBERS OF THE LAUNDRY OWNERS NATIONAL ASSOCIATION
DISTRICT NUMBER 8
DISTRICT NUMBER 9
DISTRICT NUMBER 10
DISTRICT NUMBER 11
DISTRICT NUMBER 12
DISTRICT NUMBER 13
DISTRICT NUMBER 14
PRESIDENT AND BOARD OF DIRECTORS
VICE-PRES. AND GENERAL MANAGER
ASSISTANT TO THE PRESIDENT
DEPARTMENT OF SALES PROMOTION
EDUCATIONAL DIRECTOR
DEPARTMENTS OF RESEARCH
SCHOOLS AND COLLEGES
PRESENT AND POTENTIAL CUSTOMERS
LOCAL ORGANIZA-TIONS
HOME ECONOMICS GROUPS
NATIONAL ORGANIZA-TIONS
GOV'T. BUREAUS
INDUSTRIAL PERSONNEL
THE PRESS

been established because the Association realizes the old, intuitive method of doing business do not produce results in a scientific era. As a working basis for training salesmen this department, in collaboration with the Membership, and with the Federal Board for Vocational Education, Washington, D. C. have compiled a sales manual for laundry conference leaders.

In addition to the compilation of the Leaders Manual the director of this department, Mrs. Robinson, has through speeches, articles, and personal letters endeavored to educate the individual laundryowner in the use of scientific selling methods to accompany his scientific laundry practices, and has also worked to increase the membership of individual laundries in the parent organization.

The last department created in the Service Bureau is the Educational Department, directed by Mrs. Elizabeth Stone Macdonald. The chart on the opposite page, gives a very clear picture of her relation to the other departments of the organization.

The program she has planned and followed includes:

I. Interpreting to the consumer the value of the power laundry to the individual through:

1. Plant Research and Consumer Research as a basis for:

a. Magazine articles

b. Addresses

c. Contacts

(1) Personal interviews

(2) Personal letters

II. Interpreting to the laundryowner the laundry standards and practices the potential consumer requires of the power laundry through:

1. Market research as a basis for:

a. Convention speeches

b. Bulletin articles

2. Contacts with leaders in Home Economics field as a basis for:

a. Analysis of consumer reactions to laundry service

As Mrs. Macdonald, with her husband, originated and directed the Priscilla Proving Plant for nine years, studying very carefully during this period the consumer desires and demands she is well able to interpret the potential consumer to the laundry-owner.

To round out her understanding in this field, she has during the last three years studied intensively the centralized plant as a solution of one of the home managers' problems, doing field research, consumer research, and plant research.

It is not surprising that with such a carefully planned and progressive program that the Association has grown to be one of the most powerful organizations in the United States. The Association includes today, thirty-seven State and Inter-State Associations, with every state in the union and Canada represented; two allied trade associations; one hundred-five local associations, and one allied association; with a total membership of 2426 laundries, 44% of the total laundries in the United States and Canada.

The membership is made up of four classes: Active, Class A; Active, Class B; Associate; and Honary. Active, Class A members are those actively engaged in the laundry business as entrepreneurs, partners, or corporations. Active Class B members are those connected with institutions including hotels, hospitals, and schools. Associate members are members engaged in an allied industry, and Honorary members are those elected for honorary or meritorious service.

The Association has apportioned the country into fourteen geographical divisions or Regions, with a representative Regional Director who serves on the board. It is the duty of the Regional Director to act as chairman of the Regional Board, to see that at least one meeting of the board in his district is held each year, and to report all matters pertaining to the needs and activities of

the Association to the Board of Directors of the Laundryowners National Association of the United States and Canada.

The constructive policy of the National Association facilitated the growth of the large plant, as the new economic conditions which followed the Industrial Revolution facilitated the growth of large plants, until the plants doing a business of $100,000 or more are carrying 68.3% of the total volume of laundry work. The competition is so keen in small industries, that the small industry cannot afford to compete with the larger one.

The cooperative advertising policy of the Laundryowners National Association, and the distribution of sales manuals and accounting methods by them has enabled a good number of small plants to operate at a profit, however.

This cooperation of individual laundryowners "reduces or eliminates industrial and distributive wastes, lays the foundation for constant decrease in productive and distributive costs, and thereby obtains fundamental increases in wages, profits, and standards of living.

A well-organized trade association offers to the small laundryowner the opportunity to secure for himself many of the advantages which accrue from large corporate organizations without losing the particular characteristics

which favor his independent business."*

Although the Laundryowners National Association has done much to encourage the small plant, and to protect it, the tendency to consolidate is evident from a study of the laundry census for the period 1909-25. In 1909, 140 plants were doing a business of $100,000 or over, in 1925 the plants doing a business of $100,000 or over had increased to 1062, a gain of 658%, while the plants doing a business of $20,000 or less decreased from 3700 plants in 1909 to 1162 plants in 1925.

The plants doing a business of $100,000 or more increased from 2.7% of the total laundry plants to 21.9%; while the plants doing a business of $20,000 or less decreased from 71.4% of the total to 23.9% of the total. In 1909 29.0% of the workers, and 27.5% of the volume of business were located in the group doing a business of $20,000 or less; 19.3% of the workers and 20.5% of the volume were in the group doing a business of $100,000 or more. Compared with the 1925 census the growth of consolidated plants is phenomenal, for only 5% of the wage earners with 4% of the total volume are located in the group doing a business of $20,00 or less; and 58.9% of the workers, doing 61.3% of the volume are located in the group doing a business of $100,000 or more.

Probably the corporate form of organization has made many of the large plants possible. The corporate form

*Practical Aids to the Independent Merchant, Herber Hoover, Secretary of Commerce, 1928

of business makes easier the raising of large amounts of capital, and allows men with a small capital to share the corporation profits. The corporation can afford to employ men of greater ability and training than the small plant, the business is not dissolved at the death of anyone individual, the risk of the stockholders is limited by state law, and the shares may usually be bought and sold, permitting a person to enter or leave the business as his inclinations dictate.

In addition, the consolidation of several plants into a corporation enables the corporation to specialize in their work, producing one type of service in one plant, another type in another plant, and so. on. The production costs and employment costs can be stabilized in the territory covered, and the flow of work into each plant equalized. Consolidation also means that the individual organization can produce laundry service at a minimum cost, instead of being forced to include upkeep and maintenance expenses for a series of small plants that could be carried by a single plant, or group plant.

The corporation form has some disadvantages, such as overcapitalization, fraudulent promotions, the legal recognition of the corporation as a separate person, and the inability of a minority to sue a director or his agents for loss incurred through negligence or dishonesty.

Whether or not the corporate form will prove ef-

fective has yet to be proved, for large scale production in the laundry industry is still in its infancy. The entrepreneur with a small capital has small chance of succeeding however, for success means, in most cases, the investment of thousands of dollars for building, equipment, and the building up of a customer clientele.

Realizing his responsibility as general manager of a national association which exerts a potent influence over the policies of the individual plants, Mr. Fitch in 1925 went over the Laundryowners National Association program and organization with President Hoover, who was then Secretary of Commerce. After studying the program and organization Mr. Hoover said, "Your Association is doing just the kind of constructive work that every trade association ought to be doing."*

*Memorandum in Mr. Fitch's file.

Conclusion

From our study of the history of laundering it appears that civilization and cleanliness are at least roughly coordinated. Until recently the art of cleanliness was not a democratic privilege. It could not be so before the mass production of cloth was transferred from the home spinning wheel and loom to centralized spinning and weaving in factories.

Centralized machine production meant that more people could have more things at less cost, and resulted in higher wages with a greater purchasing power.

As civilization and cleanliness progress together mass production leads to mass reconditioning. The homemanager, accepting mass production in industry, was loth to apply the same principle to the mechanics of her household and clung tenaciously to the old traditional customs. It was not until man entered the reconditioning field, therefore, that new mass production methods were applied to the laundry industry.

The laundry industry grew rapidly, from the time man entered the field, until in 1919 the United States Department of Commerce recognized the reconditioning of soiled linens as a factory

problem, and the Bureau of Census included laundry factories in the list of industries of which a biennial census is taken.

The mass production of reconditioned fabrics has proved that the laundry industry works on the basis of decreasing costs. One machine can handle one hundred washings as easily as it can handle one washing. If the machine does work for one family when it can do work for one hundred families, then the single family will have to bear the total expense.

Unfortunately the American home manager has not stopped to realize this, and is still thinking in terms of her individual tastes and needs, and not in terms of her social group.

The home manager, however, who is not social minded, and who still hires a woman to come in by the day and wash and iron for her, or who operates her own washing machine is slowing up the trend toward the centralized plant, and extending the time that the laundry service will be out of reach of her less affluent neighbor.

That this is a transitional era of thinking how the laundry problem is to be handled is revealed in a study of a survey recently made in the Bureau of Consumer Research of Boston University. In this survey,

twenty-four combinations of commercial laundry service, or commercial laundry and home service were listed, as well as work done entirely by the home manager; work done by the home manager and members of the family; work done by the home manager and a wash-woman who came in by the day; work done by the home manager, with some sent to an outside wash-woman, et cetera.

In the cross-section survey of one hundred fifty-nine rural families in New Hampshire, it was found that 68.55% of the laundry work in the homes studied is still being done entirely by the home manager; 6.91% is being done out of the home; and 24.53% is being done by a variety of combinations.

But in spite of the apparent reluctance of the home manager to adopt the centralized machine reconditioning of fabrics, the laundry plant is steadily gaining a place in American home life and making possible a higher degree of culture and civilization for the entire social group.

Some of the problems that seem to be indicated from the results of our study are:

1. The need for greater technical perfection in the industry itself
2. A better understanding on the part of consumers of the privileges it offers
3. A better coordination of textile manufacturers, consumers, and the reconditioning industry.

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2. Inquiries
   Wrote over 150 letters of inquiry to laundryowners, government officials, and individuals

3. Interviews
   Over 50 personal interviews with laundry patrons, laundryowners, and government officials
4. Two weeks actual work in a power laundry

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